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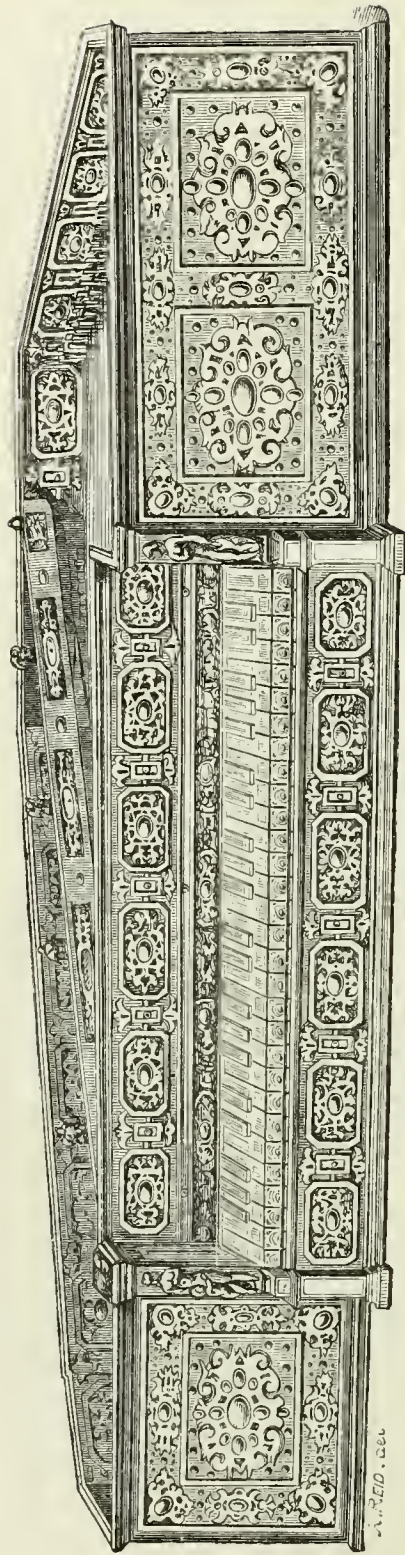
Walter Van Dusen  
Sept. 1925.

*MUSICAL INSTRUMENTS IN THE*  
*SOUTH KENSINGTON MUSEUM*









ITALIAN SPINET, ORNAMENTED WITH PRECIOUS STONES.

Made by ANNIBALE DEI ROSSI of Milan, in the year 1577. (See page 272.)

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SCIENCE AND ART DEPARTMENT  
OF THE COMMITTEE OF COUNCIL ON EDUCATION,  
SOUTH KENSINGTON MUSEUM.

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A

DESCRIPTIVE CATALOGUE

OF THE

MUSICAL INSTRUMENTS

IN THE

SOUTH KENSINGTON MUSEUM.

*Preceded by an Essay on the History of Musical Instruments.*

BY CARL ENGEL.

SECOND EDITION.



LONDON:

PRINTED BY GEORGE E. EYRE AND WILLIAM SPOTTISWOODE,  
PRINTERS TO THE QUEEN'S MOST EXCELLENT MAJESTY.  
FOR HER MAJESTY'S STATIONERY OFFICE.

1874.





## CONTENTS.

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	Page
INTRODUCTION - - - - -	1
AN ESSAY ON THE HISTORY OF MUSICAL INSTRUMENTS - - - - -	9
Prehistoric Relics - - - - -	9
Musical Instruments of the Ancient Egyptians - - - - -	11
Musical Instruments of the Assyrians - - - - -	21
Musical Instruments of the Hebrews - - - - -	27
Musical Instruments of the Greeks - - - - -	34
Musical Instruments of the Etruscans and Romans - - - - -	40
Musical Instruments of the Chinese - - - - -	46
Musical Instruments of the Hindus - - - - -	53
Musical Instruments of the Persians and Arabs - - - - -	57
Musical Instruments of the American Indians - - - - -	65
Musical Instruments of European nations during the Middle Ages - - - - -	89
Post-Mediæval Musical Instruments - - - - -	119
CATALOGUE - - - - -	139
African Countries - - - - -	141
Asiatic Countries - - - - -	157
The Caucasus, and neighbouring Districts - - - - -	202
Turkey - - - - -	207
Roumania - - - - -	217
Musical Instruments, mostly antiquated, of European countries - - - - -	222
Mexican Antiquities - - - - -	285
APPENDIX No. 1.—Musical Instruments lent for Exhibition - - - - -	287
APPENDIX No. 2.—Some Account of the Special Exhibition of Ancient Musical Instruments in the South Kensington Museum, Anno 1872 - - - - -	347
INDEX OF NUMBERS - - - - -	381
GENERAL INDEX - - - - -	383

---

## LIST OF ILLUSTRATIONS.

Fig.	Page	Fig.	Page
1. Italian Spinnet, ornamented with precious stones. Made by Annibale dei Rossi of Milan, in the year 1577.— <i>Frontispiece.</i>		33. Trigonum, Roman	42
2. A Pre-historic Whistle	10	34. Tibiæ pares, Roman	43
3. Harp with Ten Strings, Ancient Egyptian	12	35. Tibiæ pares with the Capistrum	43
4. Harp with Thirteen Strings, Ancient Egyptian	13	36. Roman Girl playing the Tibia	44
5. Triangular Harp of the Ancient Egyptians	14	37. The Tuba, Cornu, and Lituus	44
6. Kind of Trigonon	14	38. Crotala, Roman	45
7. Lyres held horizontally	14	39. King, Chinese	47
8. Lyre held perpendicularly	15	40. Pien-tchung, Chinese	49
9. Four-stringed Instrument, borne upon the Shoulder of the Performer	15	41. Hiuen-tchung	49
10. An Ancient Egyptian Concert	16	42. Ou, Chinese	50
11. An Ancient Egyptian Flute Concert	18	43. Tchou, Chinese	51
12. Military Band, Ancient Egyptian	19	44. Kin-kou, Chinese	52
13. Three Tambourines and a Darabouka of the Ancient Egyptians	20	45. Hiuen	52
14. Sifra, Ancient Egyptian	21	46. Vina, Hinduстан	55
15. Procession of Assyrian Musicians to meet the Conquerors returning from Battle	22	47. Persian Chang, VI <sup>th</sup> Century	58
16. An Assyrian Instrument of the Trigonon species	23	48. Persian Bagpipe, VI <sup>th</sup> Century	58
17. Assyrian Lyres, Tambourine, and Cymbals	24	49. Persian Harps, about A.D. 1400	59
18. Assyrian Tamboura	25	50. Turkish Harp, XVII <sup>th</sup> Century	59
19. Assyrian Drums	26	51. El-oud, or Lute	61
20. Hebrew Coins with the Lyre	28	52. Kanoon	61
21. Hebrew square-shaped Lyre	28	53. Persian Santir	62
22. The supposed Hebrew Lyre of Beni Haffan	30	54. Nay	63
23. Ancient Bagpipe from Tarsus, Cilicia	32	55. Whistles of the Aztecs	66
24. Grecian Harp and Lyres	35	56. Antique Pipe from Central America	66
25. Grecian Lyres	36	57. Pipes of the Aztecs	67
26. Trigonon	37	58. A Pipe of the Aztecs	68
27. A species of Trigonon	38	59. Antique Peruvian Bone-Flute	69
28. Diaulos	39	60. Huayra-puhura of the Inca Peruvians	70
29. Etruscan Cornu	40	61. Huayra-puhura of the Inca Peruvians	71
30. Organum hydraulicum	41	62. Trumpet of the Indians in the Vicinity of the Orinoco	72
31. Roman Lyre	41	63. Juruparis, South America	73
32. The supposed Pfalterium	42	64. Antique Trumpets of the Indians in Guiana	74
		65. Teponaztli of the Aztecs	77
		66. Antique Drum from Hispaniola	78
		67. Antique Bell of the Inca Peruvians	81
		68. Yotl of the Aztecs	81
		69. A Cluster of small Bells of the Aztecs	81
		70. Cithara, IX <sup>th</sup> Century	90
		71. Triangular Pfalterium, IX <sup>th</sup> Century	91
		72. Square Pfalterium, IX <sup>th</sup> Century	91

# List of Illustrations.

vii

Fig.	Page	Fig.	Page
73. Cithara, IX <sup>th</sup> Century - -	92	105. Scotch Bagpipe, XVIII <sup>th</sup> Century -	125
74. Nablum, IX <sup>th</sup> Century - -	92	106. Irish Bagpipe, XVI <sup>th</sup> Century -	126
75. A Species of Citole, IX <sup>th</sup> Century	93	107. Carillon, The Netherlands -	131
76. Anglo-Saxon Harp, XI <sup>th</sup> Century	94	108. Rebab - - -	143
77. Harp, IX <sup>th</sup> Century - -	95	109. Tabl Shamee - - -	144
78. Early Irish Harp - -	95	110. Nubian Kiffar - - -	148
79. German Rotte, IX <sup>th</sup> Century -	96	111. Nanga ; a Negro Harp - -	150
80. Rotta, VII <sup>th</sup> Century - -	97	112. Negro Ivory Trumpet - -	153
81. An Irish Rotta, X <sup>th</sup> Century -	98	113. Marimba, Africa - -	155
82. Crowd, English ; about the XIII <sup>th</sup> Century - - -	99	114. Yue-kin, China - -	179
83. French Crout, XI <sup>th</sup> Century -	100	115. San-heen, China - -	181
84. Anglo-Saxon Fiddle, XI <sup>th</sup> Century	101	116. Cheng ; a Chinese Organ -	187
85. German Fiddle, IX <sup>th</sup> Century -	101	117. Chinese Drum - -	189
86. Organistrum, IX <sup>th</sup> Century -	103	118. Yun-lo, China - -	193
87. Monochord, IX <sup>th</sup> Century -	104	119. Biva, Japan - -	195
88. Single Chorus, X <sup>th</sup> Century -	105	120. Taki-goto, Japan - -	196
89. Double Chorus, X <sup>th</sup> Century -	105	121. Santir - - -	205
90. Chorus, IX <sup>th</sup> Century - -	106	122. Kemangeh - - -	210
91. A Species of Syrinx, XI <sup>th</sup> Century	107	123. Rebab esh-Sha'er - -	211
92. Sackbut, IX <sup>th</sup> Century - -	107	124. Kobfa - - -	219
93. Pneumatic Organ, IV <sup>th</sup> Century -	108	125. Oliphant - - -	228
94. Organ, XII <sup>th</sup> Century - -	109	126. Cornet à Bouquin - -	230
95. Regal, XV <sup>th</sup> Century - -	110	127. Vielle - - -	233
96. Cymbalum, IX <sup>th</sup> Century - -	111	128. Chitarrone - - -	245
97. Cymbalum, IX <sup>th</sup> Century - -	111	129. Archlute - - -	246
98. Bunibulum, IX <sup>th</sup> Century - -	111	130. Zither - - -	256
99. Bas-relief from the Abbey of St. Georges de Boscherville - -	113	131. Viola di Bardone - -	264
100. Musical Performers represented on the Portico della Gloria of The Church of Santiago da Com- postella - - -	115	132. Virginal - - -	269
101. Front of the Minstrels' Gallery, Exeter Cathedral - - -	118	133. English Spinet - - -	276
102. Lute, XVI <sup>th</sup> Century - -	120	134. Handel's Harpsichord - -	280
103. Viola da Gamba, English, XVII <sup>th</sup> Century - - -	123	135. Violin, English. Dated 1578. Lent by the Earl of Warwick -	288
104. Recorder, English, XVII <sup>th</sup> Cen- tury - - -	124	136. Pib-gorn, Welsh - -	293
		137. Crwth, Welsh - -	294
		138. Zanze, Western Africa - -	297
		139. Marouvané, Madagascar -	306
		140. Kaffo ; a Negro Instrument -	308
		141. Bass Flute, English - -	319
		142. Nail Violin - - -	343
		143. German Clavichord - -	356

*The Department of Science and Art is indebted to Mr. JOHN MURRAY for the loan of Sixteen Woodcuts, illustrating the Ancient Egyptian and Assyrian Instruments.*

## P H O T O G R A P H S.

	Facing Page
Chinese Musical Instruments - - -	184
Harp ; French - - -	238
Machète, Quinterna and Pandurina -	248
Virginal ; Italian - - -	270
Clavicembalo ; Italian - - -	278
Organ Positive ; German - - -	284

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## INTRODUCTION.

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MUSIC, in however primitive a stage of development it may be with some nations, is the most universally appreciated of the Fine Arts. The origin of Vocal music may be surmised to have been coeval with, if not antecedent to, that of language ; and the construction of musical instruments evidently dates with the earliest inventions which suggested themselves to human ingenuity. There exist even at the present day some savage tribes, in Australia and South America, who, although they have no more than the five first numerals in their language, and are thereby unable to count the fingers of both hands together, nevertheless possess musical instruments of their own contrivance, with which they accompany their songs and dances.

Wood, metal, and the hide of animals, are the most common substances used in the construction of musical instruments. In tropical countries bamboo, or some similar kind of cane, and gourds, are especially made use of for this purpose. Bone, horn, glass, pottery, slabs of sonorous stone,—in fact, almost all vibrating matter has the ingenuity of man contrived to employ in producing music. The strings of instruments are made of the hair of animals, of silk, the runners of creeping plants, the fibrous roots of certain trees, of cane, catgut (which implies not only the gut of the cat, but also of the goat, lamb, camel, and some other animals), metal, &c.

The mode in which individual nations or tribes are in the habit of embellishing their musical instruments is sometimes as characteristic as it is singular. The negroes in several districts of Western Africa affix to their drums human skulls. A war-trumpet of the king of Ashantee, which was brought to England, is surrounded by human jawbones.

The Maories in New Zealand carve around the mouth-hole of their trumpets a figure intended, it is said, to represent female lips. The materials for ornamentation chiefly employed by savages, are bright colours, beads, shells, grasses, the bark of trees, feathers, stones, gilding, pieces of looking-glasses inlaid like mosaic, &c. Uncivilized nations are sure to consider anything which is bright and glittering ornamental, especially if it is also scarce. Captain Tuckey saw in Congo a negro instrument which was ornamented with part of the broken frame of a looking-glass, to which were affixed in a semicircle a number of brass buttons with the head of Louis XVI. on them,—perhaps a relic of some French sailor drowned near the coast years ago.

Again, musical instruments are not unfrequently formed in the shape of certain animals. Thus, a kind of harmonicon of the Chinese represents the figure of a crouching tiger. The Burmese possess a stringed instrument in the shape of an alligator. Even more grotesque are the imitations of various beasts adopted by the Javanese. The natives of New Guinea have a singularly shaped drum, terminating in the head of a reptile. A wooden rattle representing a bird is a favourite instrument of the Indians of Nootka Sound, North-western America. In short, not only the inner construction of the instruments, and their peculiar quality of sound, exhibit in most nations certain distinctive characteristics, but the same is also in great measure the case with their outward appearance.

An arrangement of the various kinds of musical instruments in a regular order, beginning with that kind which is the most universally known, and progressing gradually to the least usual, gives the following results :—

Instruments of Percussion of indefinite sonorousness, or, in other words, pulsatile instruments which have not a sound of a fixed pitch,—as the drum, rattle, castanets, &c.—are most universal.

Wind Instruments of the flute kind,—including pipes, whistles, flutes, Pandean pipes, &c.—are also to be found almost everywhere.

Much the same is the case with Wind Instruments of the trumpet kind. These are often made of the horns, bones, and tusks of animals ; but also frequently of vegetable substances, and of metal.

Instruments of Percussion of definite sonorousness are chiefly met with in China, Japan, Burmah, Siam, and Java. They not unfrequently contain a series of tones produced by slabs of wood, or metal, which are beaten with a sort of hammer, as our harmonicon is played.

Stringed Instruments without a finger-board, or any similar contrivance which enables the performer to produce a number of different

tones on one string, are generally found among nations whose musical accomplishments have emerged from the earliest state of infancy. The strings are twanged with the fingers or with a piece of wood, horn, metal, or any other suitable substance serving as a *plectrum*; or the strings are made to vibrate by being beaten with a hammer, as our dulcimer is played.

Wind Instruments with *reeds*, *i.e.*, such instruments as are blown through a single or double piece of vibrating cane, straw, or similar substance,—like our hautboy, bassoon, and clarinet,—are chiefly met with in European countries. They are, however, also constructed in several Asiatic countries, in Egypt, the Barbary States, &c.

Stringed Instruments provided with a finger-board, on which different tones are producible on one string by the performer shortening the same more or less,—as on the guitar, violin, &c.—are met with almost exclusively among nations in a somewhat advanced stage of musical progress. Such as are played with a bow are the least universal; they are, however, known to the Chinese, Japanese, Hindus, Persians, Arabs, and a few other nations, besides those of Europe and their descendants in extra-European countries.

Wind Instruments of the organ kind,—*i.e.*, such as are constructed of a number of tubes which can be sounded together by means of a common mouthpiece, or some similar contrivance, and upon which therefore chords, and combinations of chords, or harmony, can be produced,—are comparatively of rare occurrence. Some interesting specimens of them exist in China, Japan, Laos, and Siam.

Besides these various kinds of sound-producing means employed in musical performances, a few others, less widely diffused, could be pointed out, which are of a construction not represented in any of our well known European specimens. For instance, some extra-European nations have peculiar Instruments of Friction, which can hardly be classed with our Instruments of Percussion. Again, there are certain contrivances in which a number of strings are caused to vibrate by a current of air, much as is the case with the *Æolian harp*; which might with equal propriety be considered either as stringed instruments, or as wind instruments. In short, our usual classification of all the various species into three distinct divisions, *viz.*, *Stringed Instruments*, *Wind Instruments*, and *Instruments of Percussion*, is not tenable if we extend our researches over the whole globe.

The collection described in the present catalogue contains several foreign instruments which cannot fail to prove interesting to the



musician. Recent investigations have more and more elicited the fact that the music of every nation exhibits some distinctive characteristics which may afford valuable hints to him as a composer or performer. A familiarity with the popular songs of different countries is advisable for him on account of the remarkable originality of the airs. They mostly spring from the heart; hence the natural and true expression, the delightful health and vigour by which they are generally distinguished. Our more artificial compositions are, on the other hand, not unfrequently deficient in these charms, because they often emanate from the fingers, or the pen, rather than from the heart. Howbeit, the predominance of expressive melody and effective rhythm over harmonious combinations, so usual in the popular compositions of foreign nations, would alone suffice to recommend them to the careful attention of our modern musicians.

The same may be said with regard to the surprising variety in construction and in manner of expression prevailing in the popular songs and dance-tunes of different countries. Indeed, every nation's musical effusions exhibit a character peculiarly their own, with which the musician would find it advantageous to familiarize himself.

Now, it will easily be understood that an acquaintance with the musical instruments of a nation conveys a more correct idea than could otherwise be obtained of the characteristic features of the nation's musical compositions. Furthermore, in many instances the construction of the instruments reveals to us the nature of the musical intervals, scales, modulations and such like noteworthy facts. True, inquiries like these have hitherto not received from musicians the attention which they deserve. The adepts in most other arts are in this respect in advance. They are convinced that useful information may be gathered by investigating the productions of art even of uncivilized nations, and by thus tracing the gradual progress of an art from its most primitive infancy to its highest degree of development. Perhaps the collection of instruments described in the following pages will in some measure contribute to establish this conviction more universally also among the children of Jubal.

Again, from an examination of the musical instruments of foreign nations, we may derive valuable hints for the improvement of our own instruments; or even for the invention of new ones. Several principles of construction have thus been adopted by us from Eastern nations, For instance, the *free reed* used in the Harmonium, or "Orgue expressif," is an importation from China. The organ builder, Kratzenstein, who lived in St. Petersburg during the reign of Catharine II.,



happened to see the Chinese instrument *cheng*, which is of this construction, and it suggested to him, about the end of the last century, to apply the *free reed* to certain organ stops. At the present day, instruments of the harmonium class have become such universal favourites in Western Europe as almost to vie in popularity with the pianoforte.

Several other well-authenticated instances could be cited in which one instrument has suggested the construction of another of a superior kind. The prototype of our pianoforte was evidently the dulcimer, known at an early time to the Arabs and Persians, who call it *santir*. One of the old names given to the dulcimer by European nations is *cimbal*. The Poles at the present day call it *cymbaly*, and the Magyars in Hungary, *cimbalom*. The *clavicembalo*, the predecessor of the pianoforte, was in fact nothing but a *cembalo* with a key-board attached to it; and some of the old *clavicembali*, still preserved, exhibit the trapezium shape, the round hole in the middle of the sound-board and other peculiarities of the old dulcimer. Again, the gradual development of the dulcimer from a rude contrivance, consisting merely of a wooden board across which a few strings are stretched, is distinctly traceable by a reference to the musical instruments of nations in different stages of civilization. The same is the case with our highly perfected harp, of which curious specimens, representing the instrument in its most primitive condition, are still to be found among several barbarous tribes. We might perhaps infer from its shape that it originally consisted of nothing more than an elastic stick bent by a string. The Damaras, a native tribe of South-Western Africa, actually use their bow occasionally as a musical instrument, when they are not engaged in war or in the chase. They tighten the string nearly in the middle by means of a leathern thong, whereby they obtain two distinct sounds, which, for want of a sound-board, are of course very weak, and scarcely audible to anyone but the performer. Some neighbouring tribes, however, possess a musical instrument very similar in appearance to the bow, to which they attach a gourd, hollowed, and open at the top, which serves as a sound-board. Again, other African tribes have a similar instrument, superior in construction only inasmuch as it contains more than one string, and is provided with a sound-board consisting of a suitable piece of sonorous wood. In short, the more improved we find these contrivances, the closer they approach our harp. And it could be shown, if this were requisite for the purpose of the present essay, that much the same gradual progress towards perfection, which we observe in the African harp, is traceable in the harps of several nations in different parts of the world.

Moreover, the present collection of musical instruments deserves the attention of the ethnologist as much as of the musician. Indeed, this may be asserted of national music in general; for it gives us an insight into the heart of man, reveals to us the feelings and predilections of the different races on the globe, and affords us a clue to the natural affinity which exists between different families of men.

Again, the collection is likely to prove interesting taken in a historical point of view. Visitors of an archæological turn of mind will find among the antiquated instruments several specimens which were in common use in England at the time of Queen Elizabeth, and which are not unfrequently mentioned in our classical literature of that period. In many instances, the passages in which allusion is made to them can hardly be understood, if we are unacquainted with the shape and construction of the instruments. Furthermore, these relics of bygone times bring, so to say, before our eyes the manners and customs of our forefathers, and assist us in understanding them correctly.

It will be seen that the modification which our orchestra has undergone in the course of scarcely more than a century, is great indeed. Most of the instruments which were highly popular about a hundred years ago, have either fallen into disuse, or are now so much altered that they may almost be considered as new inventions. Among Asiatic nations, on the other hand, we meet with several instruments which have retained intact through many centuries their old construction and outward appearance. In the present catalogue will be found notices of some instruments, still in popular use in Egypt and Western Asia, which are precisely like certain specimens represented on ancient monuments dating from a period of about three thousand years ago. By a reference to the Eastern instruments of the present time we obtain therefore a key for investigating the ancient Egyptian and Assyrian representations of musical performances; and, likewise, for appreciating more exactly the Biblical records respecting the music of the Hebrews. Perhaps, these evidences will convey to some inquirers a less high opinion than they have hitherto entertained, regarding the musical accomplishments of the Hebrew bands in the solemn processions of King David, or in Solomon's temple; but the opinion will be all the nearer to the truth.

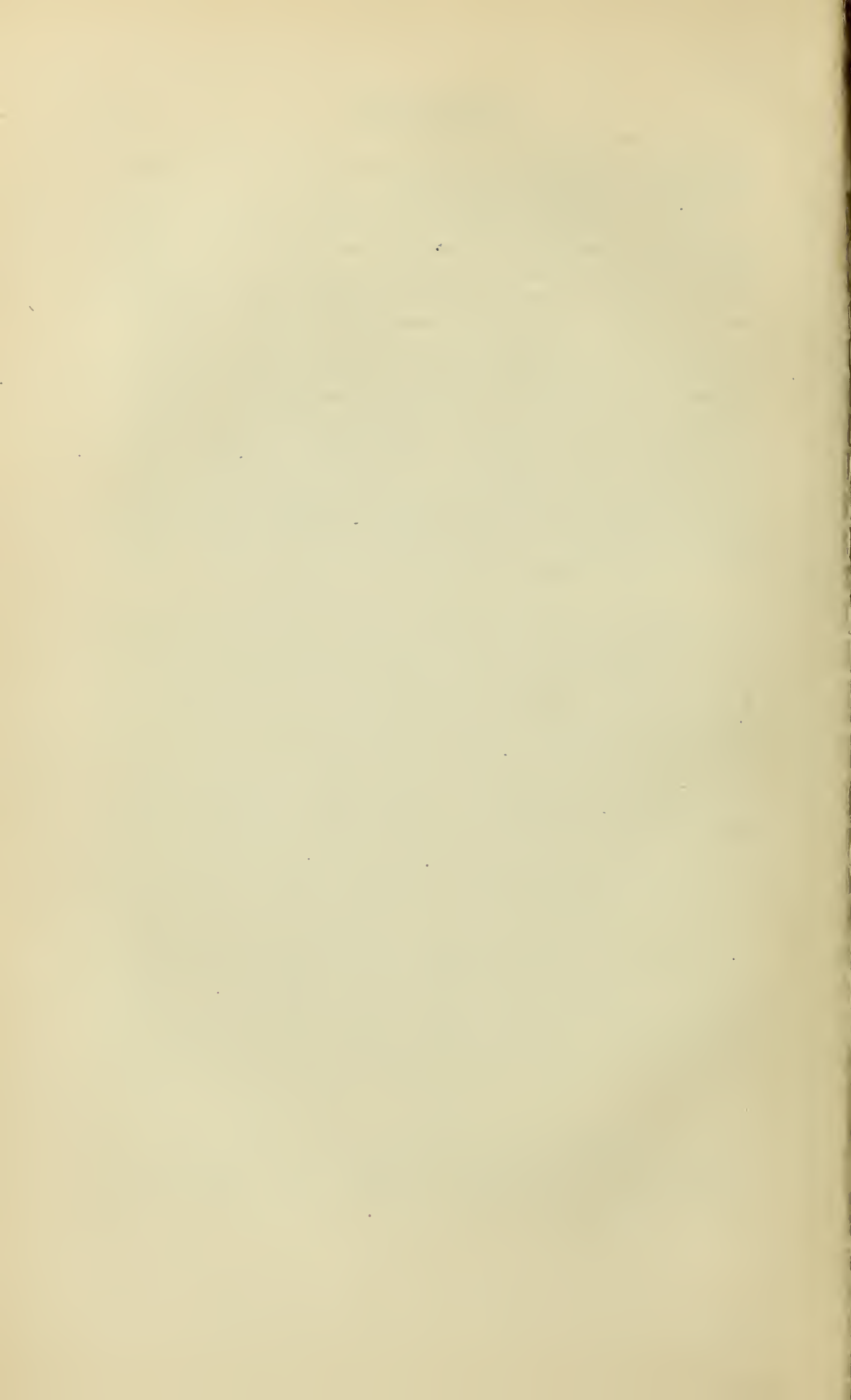
There is another point of interest about the collection, which must not be left unnoticed. Several instruments are remarkable on account of their elegant shape and tasteful ornamentation. This is especially the case with certain specimens from Asiatic countries. The beautiful

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designs with which they are embellished may afford valuable patterns for study and for adoption in works of art.

It has been thought advisable thus briefly to indicate the various purposes for which the present collection of musical instruments is likely to prove instructive, since the plan adopted in the compilation of the catalogue is thereby explained. The aim of the compiler has been to facilitate a survey of the instruments of each nation individually, as well as of the whole collection, and especially to impart such information on the subject as he thought most likely to interest visitors in general. Some statements may, at a first glance, appear unimportant; but, as they are statements of ascertained facts, they ought not to be disregarded by earnest inquirers. At all events, if in musical investigations greater attention had been given to facts apparently of little moment than has generally been the case, much light would long since have been thrown upon several interesting questions which are still involved in darkness.

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## AN ESSAY

### ON THE HISTORY OF MUSICAL INSTRUMENTS.



SATISFACTORY account of all the musical instruments from the earliest time known to us, would require much more space than can here be afforded. In the present essay therefore only a concise historical survey has been attempted. It is, however, hoped that the illustrations interspersed throughout the text, will to the intelligent reader elucidate many facts, which, for the reason stated, are touched upon but cursorily.

#### PRE-HISTORIC RELICS.

Several musical instruments, dating from periods anterior to the Christian era, have been discovered during the present century, preserved almost intact. Among these curious relics of high antiquity is a little pipe with two finger-holes, which has been found in the ruins of Babylon, Birs-i-Nimroud, and which, when blown into, still emits tones that cannot have been more clear and distinct at the time when the instrument had just been formed of clay and baked by its constructor. Even more surprising is the preservation of some stringed instruments, species of harps, which have been brought to light from sepulchres of the ancient Egyptians.

Still, these instruments might almost be regarded as belonging to modern times, if we compare their antiquity with that of a certain musical relic which has recently been exhumed in France, and which was constructed by the inhabitants of the country in an age when the fauna of France included among the Herbivora the reindeer, the rhinoceros, the mammoth, the aurochs (*Bison europæus*); and among the Carnivora the hyæna, the bear, and the cave-lion (*Felis spelæa*). With other rude works of art of primæval man which have been found in the caverns of the department of Dordogne (the ancient province of Périgord), occurs a small bone, somewhat less than two inches in length,

in which is a hole, evidently bored by means of one of those little flint knives which man constructed before his acquaintance with the employment of metal for tools and weapons. Many of these flints were found in the same place with the bones. Only about half a dozen of the bones, of which a considerable number have been exhumed, possess the artificial hole. (See Fig. 2.)

M. Lartet ('Cavernes du Périgord, objets gravés et sculptés des temps pré-historiques dans l'Europe occidentale,' Paris 1864) surmises the perforated bone to have been used by the aborigines as a whistle in hunting animals. It is the first digital phalanx of a ruminant, drilled to a certain depth by a smooth cylindrical bore, on its lower surface

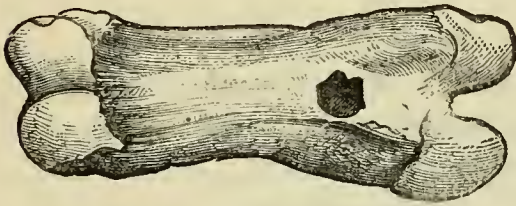


Fig. 2.—A PRE-HISTORIC WHISTLE.

near the expanded upper articulation. On applying it to the lower lip and blowing into it, a shrill sound is yielded. Three of these phalanges are of reindeer, one is of chamois. Sir Charles Lyell ('The Geological Evidences

of the Antiquity of Man,' London 1863) mentions among the pre-historic remains discovered in a sepulchral grotto near the town of Aurignac in the department of Haute-Garonne, Southern France, "eighteen small, round, and flat plates of a white shelly substance, made of some species of cockle (*Cardium*), pierced through the middle as if for being strung into a bracelet." And M. Lartet found in the same grotto the tusk of a cave-bear, carved and perforated lengthwise as if for suspension as an ornament or amulet. Again, among the relics which have been brought to light from the cave of Lombrive, in the department of Ariège, also in the South of France, of which an account has been published by MM. Rames, Garrigou, and Filhol, occur several eye-teeth of the dog which have a hole drilled into them near the root. Probably they also yield sounds like those reindeer bones, or like the tube of a key. Still, there remains hardly a doubt that the instrument in question was constructed for no other purpose than that of serving as a whistle for conveying signals. This is the opinion of all *savans* who have carefully investigated the pre-historic relics. Another whistle,—or rather a pipe, for it has three finger-holes, by means of which different tones could be produced,—was found in a burying-place, dating from the stone period, which is situated in the vicinity of Poitiers in France. M. Lartet and Dr. Camus of Paris had a cast made of this pipe, which they sent to M. Fétis, who has given an illustration of it in his 'Histoire générale de la Musique.' The pipe is rudely constructed from a fragment of

stag's-horn. It is blown at the end, like a *flûte à bec*, and the three finger-holes are placed equidistantly. Four distinct tones must have been easily obtainable on it: the lowest, when all the finger-holes were covered; the other three, by opening the finger-holes successively. From the character of the stone utensils and weapons discovered with this pipe, it is conjectured that the burying-place from which it was exhumed dates from the latest time of the stone age. Therefore, however old it may be, it is a more recent contrivance than the reindeer-bone whistle from the cavern of Périgord.

#### MUSICAL INSTRUMENTS OF THE ANCIENT EGYPTIANS.

The most ancient nations historically known possessed musical instruments which, though in acoustic construction greatly inferior to our own, exhibit a degree of perfection which could have been attained only after a long period of cultivation. Many nations or tribes of the present day have not yet reached this stage of musical progress.

As regards the instruments of the ancient Egyptians we now possess perhaps more detailed information than of those appertaining to any other nation of antiquity. This information we owe especially to the exactness with which the instruments are depicted in sculptures and paintings. Whoever has examined these interesting monuments with even ordinary care, cannot but be convinced that the representations which they exhibit, are faithful transcripts from life. Moreover, if there remained any doubt respecting the accuracy of the representations of the musical instruments, it might be dispelled by most reliable evidence. Several specimens have been discovered in tombs preserved in a more or less perfect condition.

The Egyptians possessed various kinds of harps, some of which were elegantly shaped and tastefully ornamented. The largest were about  $6\frac{1}{2}$  feet high; and the small ones frequently had some sort of stand which enabled the performer to play upon the instrument while standing. The name of the harp was *buni*. Its frame had no front pillar; the tension of the strings therefore cannot have been anything like so strong as on our present harp. (See the Ancient Egyptian Concert, Fig. 10.)

The Egyptian harps most remarkable for elegance of form and elaborate decoration are the two which were first noticed by the traveller Bruce, who found them painted in fresco on the wall of an ancient sepulchre at Thebes, which is supposed to be the tomb of Rameses III., who reigned about 1250 B.C. Bruce's discovery first became known to the musical world through a letter addressed



by him to Dr. Burney, which, accompanied by a drawing of one of these harps, without the figure of the performer, was published in the first volume of Burney's 'History of Music.' Soon afterwards, engravings of both instruments appeared in Bruce's 'Travels,' vol. I. The discovery created sensation among musicians. The fact that at so remote an age the Egyptians should have possessed harps which vie with our own in elegance and beauty of form, appeared to some so incredible that the correctness of Bruce's representations was greatly doubted. Sketches of the same harps, taken subsequently and at different times from the frescoes, have been published, all of which differ more or less from each other in appearance and in the number of strings. The engravings Figs. 3 and 4 represent "Bruce's Harps" as they appear in Sir G. Wilkinson's 'Manners and Customs of the Ancient Egyptians.'



Fig. 3.—HARP WITH TEN STRINGS. ANCIENT EGYPTIAN.



A kind of triangular harp of the Egyptians was discovered in a well-preserved condition and is now deposited in the Louvre. It has twenty-one strings,—a greater number than is generally represented on the monuments. In the engraving Fig. 5 is shown the manner in which the strings were fastened on the triangular harp. All these instruments, however much they differed from each other in form, had one peculiarity in common,—the absence of the fore pillar. Moreover, the Egyptians had various kinds of the Trigonon as well as various kinds of Lyres. The Trigonon ought perhaps more properly to be classed with the lyre than with the harp, because it partakes more of the character of the former instrument. A curious stringed instrument of a semicircular shape was discovered in the year 1823 at Thebes. It was mounted with twenty strings of catgut (probably made of the



Fig. 4.—HARP WITH THIRTEEN STRINGS. ANCIENT EGYPTIAN.

intestines of the camel), which still emitted sound when made to vibrate. Its wooden frame was covered with red leather. It had no tuning-pegs. The strings were affixed to the upper part of the frame,

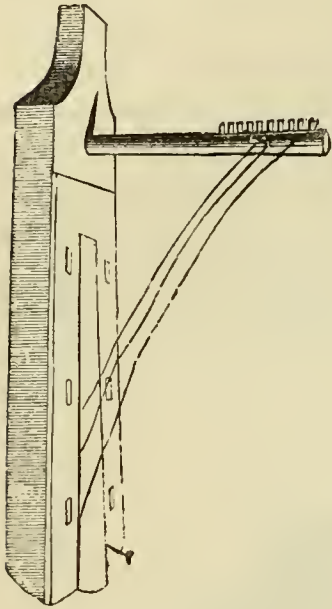


Fig. 5.—TRIANGULAR HARP OF THE ANCIENT EGYPTIANS.



Fig. 6.—KIND OF TRIGONON.

and were tuned by being wound round a straight rod, which was inserted into the lower part of the frame. The instrument was therefore a kind of Trigonon.



Fig. 7.—LYRES HELD HORIZONTALLY. ANCIENT EGYPTIAN.

As regards the Lyre, some kinds were held perpendicularly, instead of horizontally, when played upon. The strings were twanged with the fingers, or with a plectrum, made of bone, ivory, or wood. The plectrum was usually affixed to a cord suspended from the frame. The frame was not unfrequently ornamented with the carved head of the horse, gazelle, or some other favourite animal. Two lyres like that represented in the engraving Fig. 8, have been found in a remarkably perfect state of preservation, and are now in the Museums of Berlin and Leyden. That in the Berlin Museum is two feet high; its body is about ten inches high, and about fifteen inches broad. It appears to have had originally thirteen strings. That in the Leyden Museum is similar, but smaller. These lyres are entirely of wood, and the frame is made longer on one side than on the other, for the purpose of tuning the instrument by sliding the strings upwards or downwards to obtain the pitch required.

A peculiar instrument with four strings (Fig. 9) was, when played upon, carried by the performer on his shoulder. Some portions of this



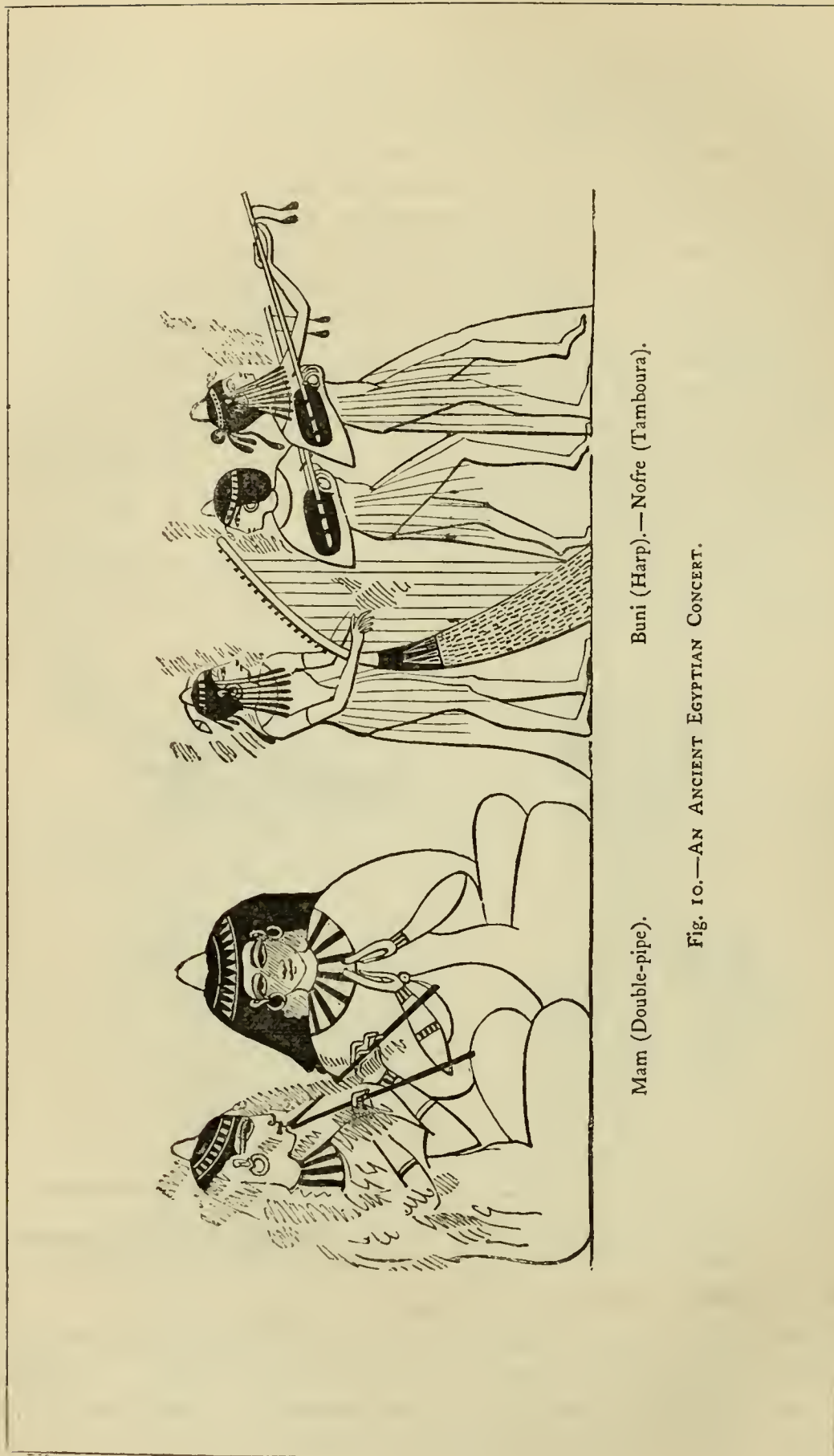
Fig. 8.—LYRE HELD PERPENDICULARLY.  
ANCIENT EGYPTIAN.



FIG. 9.—FOUR-STRINGED INSTRUMENT, BORNE  
UPON THE SHOULDER OF THE PERFORMER.

instrument may be seen in the British Museum. It was made entirely of wood, except that the body was covered with parchment. Another curious instrument of this kind, of which remains have been preserved, much resembles in construction the Negro Nanga. (See Fig. 111.)





Mam (Double-pipe).

Buni (Harp).—Nofre (Tamboura).

Fig. 10.—AN ANCIENT EGYPTIAN CONCERT.



The *nofre*, a kind of guitar (Fig. 10) was almost identical in construction with the Tamboura at the present day in use among several Eastern nations. It was evidently a great favourite with the ancient Egyptians. A figure of it is found among their hieroglyphs, signifying "good." It occurs in representations of concerts dating earlier than from B.C. 1500. The *nofre* affords the best proof that the Egyptians had made considerable progress in music at a very early age; since it shows that they understood how to produce on a few strings, by means of the finger-board, a greater number of notes than were obtainable even on their harps. The instrument had two or four strings, was played with a plectrum, and appears to have been sometimes, if not always, provided with frets. In the British Museum is a fragment of a fresco, obtained from a tomb in the Western Hills of Thebes, on which two female performers on the *Nofre* are represented. The painter has distinctly indicated the frets. There is also in the British Museum a small Egyptian vase in terra-cotta, from Thebes,  $8\frac{1}{2}$  inches high, which represents a female playing a *Nofre*, whereon the frets are distinctly marked over the whole neck, even where it extends over the body. If this be a faithful representation of the finger-board,—and there is no reason to doubt its fidelity,—a great number of strictly defined intervals must have been obtainable upon each string.

The Egyptians possessed also a kind of lute, or a *Nofre* with a short neck. A specimen was found at Thebes in a dilapidated condition, without tuning-pegs, or indications of its ever having had any. The upper part of the body was of parchment.

Small pipes of the Egyptians have been discovered, made of reed, with three, four, five, or more finger-holes. Above a dozen may be seen in the Leyden Museum. There are also interesting examples in the British Museum; one of which has seven holes burnt in at the side. Two straws were found with it of nearly the same length as the pipe, which is about one foot long. In some other pipes pieces of a kind of thick straw have also been found inserted into the tube, obviously serving for a similar purpose as the *reed* in our oboe or clarinet.

The *fēbi*, a single flute, was of considerable length, and the performer appears to have been obliged to extend his arms almost at full length in order to reach the furthest finger-hole. As *fēbi* is also the name of the leg-bone (like the Latin *tibia*), it may be supposed that the Egyptian flute was originally made of bone. Those, however, which have been found are of wood or reed.

The representation of a flute-concert, Fig. 11, is from one of the tombs in the Pyramids of Gizeh, and dates, according to Lepsius, from



FIG. II.—AN ANCIENT EGYPTIAN FLUTE CONCERT.

the Fifth Dynasty; it must, therefore, be earlier than B.C. 2000. Eight musicians are performing on flutes. Three of them, one behind the other, are kneeling and holding their flutes in exactly the same manner. Facing these are three others, in a precisely similar position. A seventh is sitting on the ground to the left of the six, with his back turned towards them, but also in the act of blowing his flute, like the others. An eighth is standing at the right side of the group, with his face turned towards them, holding his flute before him with both hands, as if he were going to put it to his mouth, or had just left off playing. He is clothed, while the others have only a narrow girdle round their loins. Perhaps he is the director of this singular band, or the *solo* performer who is waiting for the termination of the *tutti* before renewing his part of the performance. And does not the division of the players into two sets, facing each other, suggest the possibility that the instruments were classed somewhat like the first and second violins, or the *flauto primo* and *flauto secundo*, of our orchestras? The occasional employment of the interval of the third, or the fifth, as accompaniment to the melody, is not unusual even with nations less advanced in music than were the ancient Egyptians.

The Double-Pipe, the name of which was *mam* (Fig. 10), appears to have been a very popular instrument, to conclude from the frequency of its occurrence in the representations of musical performances. Furthermore, the Egyptians had, as far as is known to us, two kinds of trumpets; three kinds of tambourines, or little hand drums; three kinds of drums, chiefly barrel-shaped; and various kinds of gongs, bells, cymbals, and castanets. The military band represented in the engraving Fig. 12 consists of five musicians,—viz., a trumpeter; a



Fig. 12.—MILITARY BAND. ANCIENT EGYPTIAN.



drummer; a performer on an instrument which is so much obliterated that its real character cannot be determined, but which to judge from its form and size must have been of importance in a military band; and two persons who are clashing together each a pair of cylindrical maces or crotala.

The trumpet appears to have been usually of brass. A peculiar wind-instrument, somewhat the shape of a champagne bottle, occurs only once in the representations transmitted to us. It appears to be a kind of trumpet perhaps made of pottery or wood.

The Egyptian drum shown in the Military Band (Fig. 12) was from two to three feet in length, covered with parchment at both ends, and braced by cords. The performer carried it before him, generally by means of a band over his shoulder, while he was beating it with his hands on both ends. Of another kind of drum an actual specimen has been found in the excavations made in the year 1823 at Thebes. It was  $1\frac{1}{2}$  feet high and two feet broad, and had cords for bracing it. A piece of catgut encircled each end of the drum, being wound round each cord, by means of which the cords could be tightened or slackened at pleasure, by pushing the two bands of catgut towards or from each other. It was beaten with two drumsticks slightly bent. The Egyptians had also straight drumsticks with a handle, and a knob at the end. The Berlin Museum possesses some of these.

The third kind of drum was almost identical with the *darabouka* (or *darabukkeh*) of the modern Egyptians. The Tambourine was either round, like that which is at the present time in use in Europe as well as in the East; or it was of an oblong square shape, slightly incurved on the four sides. Two instruments of this description, and one of the common kind are represented in the engraving Fig. 13.



Fig. 13.—THREE TAMBOURINES AND A DARABOUKA OF THE ANCIENT EGYPTIANS.



The Sistrum consisted of a frame of bronze or brass into which three or four metal bars were loosely inserted, so as to produce a jingling noise when the instrument was shaken. The bars were often made in the form of snakes, or they terminated in the head of a goose. Not unfrequently a few metal rings were strung on the bars, to increase the noise. The frame was sometimes ornamented with the figure of a cat. The largest sistrum which have been found are about 18 inches in length, and the smallest about nine inches. The sistrum was principally used by females in religious performances. Its Egyptian name was *sesesh*.

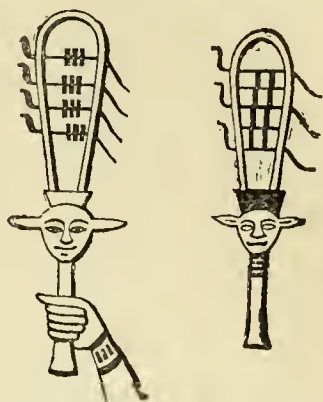


Fig. 14.—SISTRA. ANCIENT EGYPTIAN.

The Egyptian cymbals closely resembled our own in shape. There are two pairs of them in the British Museum. One pair was found in a coffin enclosing the mummy of Ankh-hapê, a sacred musician, and is deposited in the same case with the mummy and coffin. Among the Egyptian antiquities in the British Museum are also several small bells of bronze. The largest is  $2\frac{1}{4}$  inches in height, and the smallest three-quarters of an inch. Some of them have a hole at the side near the top wherein the clapper was fastened.

#### MUSICAL INSTRUMENTS OF THE ASSYRIANS.

Our acquaintance with the Assyrian instruments has been derived almost entirely from the famous bas-reliefs which have been excavated from the mounds of Nimroud, Khorfabad, and Kouyunjik, situated near the river Tigris in the vicinity of the town of Mosul in Asiatic Turkey.

The Assyrian Harp was about four feet high, and appears of larger size than it actually was, on account of the ornamental appendages which were affixed to the lower part of its frame. It must have been but light in weight, since we find it not unfrequently represented in the hands of persons who are playing upon it while they are dancing. Like all the Oriental harps, modern as well as ancient, it was not provided with a front pillar. The upper portion of the frame contained the sound-holes, somewhat in the shape of an hour-glass. Below them were the screws, or tuning-pegs, arranged in regular order. The strings were perhaps made of silk, like those which the Burmese use at the present time on their harps; or they may have been of catgut, which was used by the ancient Egyptians.

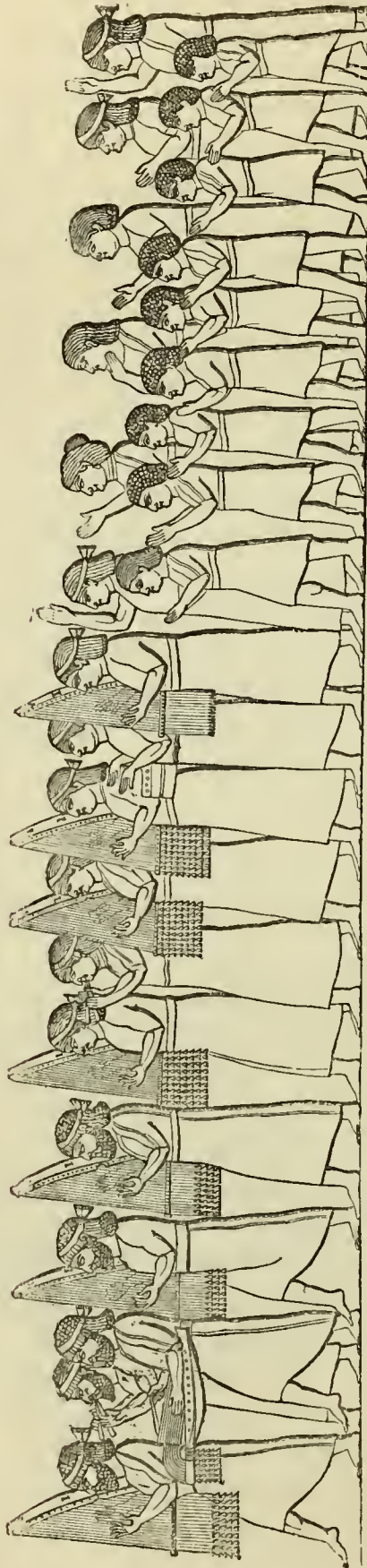


Fig. 15.—PROCESSION OF ASSYRIAN MUSICIANS TO MEET THE CONQUERORS RETURNING FROM BATTLE.

The engraving Fig. 15 represents the largest assemblage of Assyrian musicians which has been discovered. It consists of eleven performers upon instruments, besides a chorus of singers. The first musician,—probably the leader of the band, as he marches alone at the head of the procession,—is playing upon a harp. Behind him are two men,—one with a dulcimer and the other with a double-pipe; then follow two men with harps. Next come six female musicians, four of whom are playing upon harps, while one is blowing a double-pipe and another is beating a small hand-drum covered only at the top. Close behind the instrumental performers are the singers, consisting of a chorus of females and children. They are clapping their hands in time with the music, and some of the musicians are dancing to the measure. One of the female singers is holding her hand to her throat in the same manner as the women in Syria, Arabia, and Persia are in the habit of doing at the present day when producing, on festive occasions, those peculiarly shrill sounds of rejoicing which have been repeatedly noticed by Oriental travellers.

The dulcimer is in too imperfect a state on the bas-relief to familiarize us with its construction. The slab representing the pro-



Fig. 16.—AN ASSYRIAN INSTRUMENT OF THE TRIGONON SPECIES.



cession, in which it occurs, has been injured; the defect, which extended over a portion of the dulcimer, has been repaired, and it cannot be said that in repairing it much musical knowledge has been evinced. Some investigators are of opinion that the sculpture originally represented an instrument of the Trigonon species like the one shown in Fig. 16. But this is doubtful; for the lower portion of the frame, which is well preserved, has a different form from that of the latter, and is marked with a number of dots, evidently intended for tuning-pegs, which on the latter are placed on the front pillar.

The instrument of the Trigonon species was held horizontally, and was twanged with a rather long plectrum slightly bent at the end at which it was held by the performer. It is of frequent occurrence on the bas-reliefs. A number of them appear to have been generally played together. At any rate, we find almost invariably on the monuments two together, evidently implying "more than one," "a number." The left hand of the performer (Fig. 16) seems to have been occupied in checking the vibration of the strings when its discontinuance was required. From the position of the strings, the performer could not have struck them as those of the dulcimer are struck. If he did not twang them, he may have drawn the plectrum across them. Indeed, for twanging, a short plectrum would have been more practical, con-



Fig. 17.--ASSYRIAN LYRES, TAMBOURINE, AND CYMBALS.



sidering that the strings are placed horizontally one above the other at regular distances. It is therefore by no means improbable that we have here a rude prototype of the violin bow.

The Lyre occurs in three different forms, and is held horizontally in playing, or at least nearly so. Its front bar was generally either oblique or slightly curved. The strings were tied round the bar so as to allow of their being pushed upwards or downwards. In the former case the tension of the strings increases, and the notes become therefore higher; on the other hand, if the strings are pushed lower down, the pitch of the notes must become deeper. The lyre was played with a small plectrum, as well as with the fingers.



Fig. 18.—ASSYRIAN TAMBOURA.

The Assyrian Tamboura (Fig. 18) resembled the *nofre* of the ancient Egyptians. Perhaps it had only two strings to which were affixed the two tassels which are seen hanging down from the neck.

The Double-pipe appears to have been more common with the Assyrians than the single pipe. The latter does not occur on the monuments, but it must have preceded the double-pipe. The Assyrians may very likely have possessed several popular instruments with which we have not become acquainted, because they were not used in such performances and ceremonies as are represented on the sculptures.

The Assyrian Trumpet was very similar to the Egyptian one shown in the engraving, Fig. 12. Furthermore, we meet with three kinds of drums, of which one *kir'* is especially noteworthy on account of its odd shape, somewhat resembling a sugar-loaf (Fig. 19); with the tambourine; with two kinds of cymbals; and with bells, of which a considerable number have been found in the mound of Nimroud. These bells, which have greatly withstood the devastation of time, are but small in size, the largest of them being only  $3\frac{1}{4}$  inches in height and  $2\frac{1}{2}$  inches in diameter. Most of them have a hole at the top, in

which probably the clapper was fastened. They are made of copper mixed with 14 per cent. of tin.



Fig. 19.—ASSYRIAN DRUMS.

Instrumental music was used by the Assyrians and Babylonians in their religious observances. This is obvious from the sculptures, and is to some extent confirmed by the mode of worship paid by command of king Nebuchadnezzar to the golden image, which is supposed to have been Baal :—“ Then an herald cried aloud, To you it is commanded, O people, nations, and languages, that at what time ye hear the sound of the cornet, flute, harp, sackbut, psaltery, dulcimer, and all kinds of musick, ye fall down and worship the golden image that Nebuchadnezzar the king hath set up.” (Dan. iii. 4, 5.)

We shall presently endeavour to ascertain in how far the names of the instruments adopted in the English version coincide with those given in the original text. Suffice it here to draw attention to the multifariousness of the Babylonian orchestra in sacred performances.

The kings appear to have maintained at their courts musical bands, whose office it was to perform secular music at certain times of the day,

or on fixed occasions. Of king Darius the Mede we are told that, when he had cast Daniel into the den of lions, he “went to his palace, “and passed the night fasting, neither were instruments of musick “brought before him” (Dan. vi. 18); from which we may conclude that his band was in the habit of playing before him in the evening.

A similar custom prevailed also at the Court of Jerufalem, at least in the time of David and Solomon; both of whom appear to have had their royal private bands, besides a large number of singers and instrumental performers of sacred music, who were engaged in the Temple.

#### MUSICAL INSTRUMENTS OF THE HEBREWS.

As regards the musical instruments of the Hebrews, we are from biblical records acquainted with the names of many of them; but reliable representations are still wanting, and it is chiefly from an examination of the ancient Egyptian and Assyrian instruments that we can conjecture almost to a certainty of their construction and capabilities. From various indications, which it would be too circumstantial here to point out, we may surmise the Hebrews to have possessed the following instruments:—

**THE HARP.**—There cannot be a doubt that the Hebrews possessed the harp, seeing that it was a common instrument among the Egyptians and Assyrians. But it is uncertain which of the Hebrew names of the stringed instruments occurring in the Bible really designates the harp.

**THE DULCIMER.**—Some writers on Hebrew music consider the *nebel* to have been a kind of dulcimer; others conjecture the same of the *psanterin* mentioned in the book of Daniel,—a name which appears to be synonymous with the *psalterion* of the Greeks, and from which also the present Oriental dulcimer, *santir*, may have been derived. Some of the instruments mentioned in the book of Daniel may have been synonymous with some which occur in other parts of the Bible under Hebrew names,—the names given in Daniel being Chaldæan. The *asor* was a ten-stringed instrument played with a plectrum, and is supposed to have borne some resemblance to the *nebel*. Perhaps it was in appearance similar to the Assyrian instrument Fig. 16, which is described as a species of Trigonon.

**THE LYRE.**—This instrument is represented on some Hebrew coins generally ascribed to Simon Maccabæus, who lived in the second



century before the Christian era. There are several of them in the British Museum; some are of silver, and the others of copper. On three of them are lyres with three strings, another has one with five, and another one with six strings. The body of the lyre appears in two different shapes, as shown in the engraving Fig. 20, which exhibits

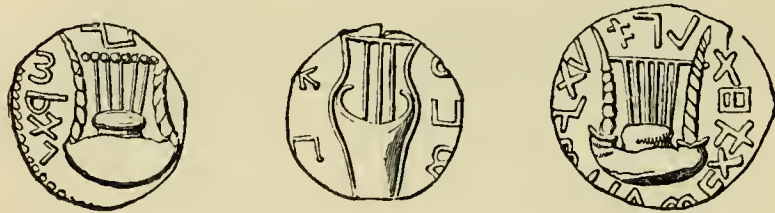


Fig. 20.—HEBREW COINS WITH THE LYRE.

three copper coins which are in the British Museum. The two sides of the frame appear to have been made of the horns of animals, or they may have been of wood formed in imitation of two horns, which originally were used. Lyres thus constructed are still found in Abyssinia. The Hebrew square-shaped lyre, Fig. 21, of the time of Simon Maccabæus, is probably identical with the *psalterion*. The *kinnor*, the favourite instrument of King David, was most likely a lyre, if not a small triangular harp. The lyre was evidently an universally known and favoured instrument among ancient Eastern nations. Being more simple in construction than most other stringed instruments, it undoubtedly preceded them in antiquity. The *kinnor* is mentioned in the Bible as the oldest stringed instrument, and as the invention of Jubal. Even if the name of one particular stringed instrument is here used for stringed instruments in general, which may possibly be the

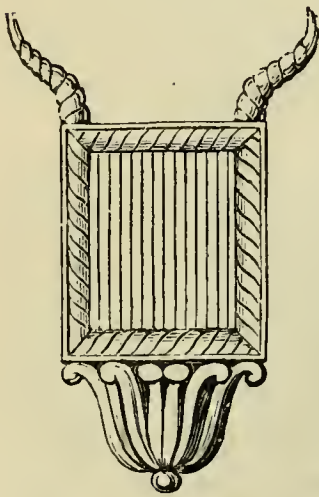


Fig. 21.—HEBREW SQUARE-SHAPED LYRE.

case, it is only reasonable to suppose that the oldest and most universally known stringed instrument would be mentioned as a representative of the whole class rather than any other. Besides, the *kinnor* was a light and easily portable instrument; King David, according to the Rabbinic records, used to suspend it during the night over his pillow. All its uses mentioned in the Bible are especially applicable to the lyre. And the resemblance of the word *kinnor* to *kithara*, *kiffar*, and similar



names known to denote the lyre, also tends to confirm the supposition that it refers to this instrument or to a kind of Trigonon. It is, however, not likely that the instruments of the Hebrews,—indeed their music altogether,—should have remained entirely unchanged during a period of many centuries. Some modifications were likely to occur even from accidental causes; such, for instance, as the unpremeditated invention of some instrument, or the influence of neighbouring nations, as the Assyrians, when the Hebrews came into closer contact with them. Thus may be explained why the accounts of the Hebrew instruments given by Josephus, who lived in the first century of the Christian era, are not in exact accordance with those in the Bible. The lyres at the time of Simon Maccabæus may probably be different from those which were in use about a thousand years earlier, or at the time of David and Solomon, when the art of music with the Hebrews was in its zenith.

There appears to be a probability that a Hebrew lyre of the time of Joseph (about 1700 B.C.) is represented on an ancient Egyptian painting discovered in a tomb at Beni Hassan,—which is the name of certain grottoes on the eastern bank of the Nile. Sir Gardner Wilkinson in his ‘Manners and Customs of the Ancient Egyptians’ observes: “If, when we become better acquainted with the interpretation of “hieroglyphics, the ‘Strangers’ at Beni Hassan should prove to be the “arrival of Jacob’s family in Egypt, we may examine the Jewish lyre “drawn by an Egyptian artist. That this event took place about the “period when the inmate of the tomb lived is highly probable—at “least, if I am correct in considering Osirtasen I. to be the Pharaoh “the patron of Joseph; and it remains for us to decide whether the “disagreement in the number of persons here introduced—thirty-seven “being written over them in hieroglyphics—is a sufficient objection “for their identity. It will not be foreign to the present subject to “introduce those figures which are curious, if only considered as “illustrative of ancient customs at that early period, and which will be “looked upon with unbounded interest should they ever be found to “refer to the Jews. The first figure is an Egyptian scribe, who “presents an account of their arrival to a person seated, the owner of “the tomb, and one of the principal officers of the reigning Pharaoh. “The next, also an Egyptian, ushers them into his presence; and two “advance, bringing presents, the wild goat or ibex, and the gazelle, “the productions of their country. Four men, carrying bows and “clubs, follow, leading an ass on which two children are placed in “panniers, accompanied by a boy and four women; and, last of all,

“ another afs laden, and two men—one holding a bow and club, the other a lyre, which he plays with a plectrum. All the men have beards, contrary to the custom of the Egyptians, but very general in the East at that period, and noticed as a peculiarity of foreign uncivilized nations throughout their sculptures. The men have sandals, the women a sort of boot reaching to the ankle—both which were worn by many Asiatic people. The lyre is rude, and differs a little in form from those generally used in Egypt.” In the engraving Fig. 22 the lyre-player, another man, and some strange animals from this group, are represented.



Fig. 22.—THE SUPPOSED HEBREW LYRE REPRESENTED ON AN ANCIENT EGYPTIAN PAINTING IN A TOMB AT BENI HASSAN.

THE TAMBOURA. — *Minnim*, *machalath*, and *nebel* are usually supposed to be the names of instruments of the lute or guitar kind. *Minnim*, however, appears more likely to imply stringed instruments in general, than any particular instrument.

THE SINGLE PIPE.—*Chalil* and *nekeb* were the names of the Hebrew pipes or flutes.

THE DOUBLE PIPE. — Probably the *mishrokitha* mentioned in Daniel. The *mishrokitha* is represented in the drawings of our Histories of Music as a small organ, consisting of seven pipes placed in a box, with a mouthpiece for blowing. But the shape of the pipes and

of the box, as well as the row of keys for the fingers exhibited in the representation of the *mishrokitha* have too much of the European type not to suggest that they are probably a product of the imagination. Respecting the illustrations of Hebrew instruments which usually accompany historical treatises on music, and commentaries on the Bible, it ought to be borne in mind that most of them are merely the offspring of conjectures founded on some obscure hints in the Bible, or vague accounts by the Rabbins.

THE SYRINX OR PANDEAN PIPE.—Probably the *ugab*, which in the English authorized version of the Bible is rendered “organ.”

THE BAGPIPE.—The word *sumphonia*, which occurs in the book of Daniel, is, by Forkel and others, supposed to denote a bagpipe. It is remarkable that at the present day the bagpipe is called by the Italian peasantry *Zampogna*. Another Hebrew instrument, the *magrepha*, generally described as an organ, was more likely only a kind of bagpipe. The *magrepha* is not mentioned in the Bible, but is described in the Talmud. In tract *Erachin* it is recorded to have been a powerful organ which stood in the temple at Jerusalem, and consisted of a case or wind-chest, with ten holes, containing ten pipes. Each pipe was capable of emitting ten different sounds, by means of finger-holes, or some similar contrivance: thus one hundred different sounds could be produced on this instrument. Further, the *magrepha* is said to have been provided with two pairs of bellows, and with ten keys, by means of which it was played with the fingers. Its tone was, according to the Rabbinic accounts, so loud that it could be heard at an incredibly long distance from the temple. However, Pfeiffer, one of the best authorities on Hebrew music, is of opinion that the *magrepha* was a large kettle-drum which stood between the porch of the temple and the altar, and which was struck to assemble the priests to prayer, and the Levites to the performance of sacred songs, as well as to announce the approach of lepers for purification. Again, Saalschütz, another careful inquirer, declares this to be an error, which he supposes to have arisen from Pfeiffer having been misled by the name *magrepha*, being also applied to another instrument, likewise used in the temple. This, however, was not a musical instrument at all, but a large fire-shovel used in removing the cinders and ashes from the altar and temple. In the Talmud, tract *Thamid*, it is stated that it was the custom for the Levite, at a fixed time, after having used the shovel, to throw it down between the altar and the porch, thereby producing a loud noise, which was heard at a great distance from the temple, and served to inform the people who approached how far the religious observances had proceeded.



In short, it appears uncertain whether the much-lauded *magrepha* was a bagpipe, an organ, a kettle-drum, or a fire-shovel. Of the real nature

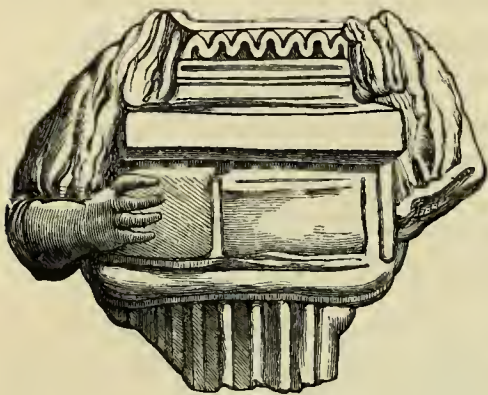


FIG. 23.—ANCIENT BAGPIPE FROM TARSUS, probably, the oldest representation of a bagpipe hitherto discovered.  
CILICIA.

of the Hebrew bagpipe perhaps some idea may be formed from a *Syrinx* with bellows (Fig. 23) which has been found represented on one of the ancient terra-cottas excavated in Tarsus, Asia Minor, some years since. These remains are believed to be about 2000 years old, judging from the figures upon them, and from some coins struck about 200 years B.C. having been found embedded with them. We have therefore before us,

**THE TRUMPET.**—Three kinds are mentioned in the Bible, viz. : the *keren*, the *shophar*, and the *chatzozerah*. The first two were more or less curved, and might properly be considered as horns. Most commentators are of opinion that the *keren*—made of ram's horn—was almost identical with the *shophar*, the only difference being that the latter was more curved than the former. The *shophar* is especially remarkable as being the only Hebrew musical instrument which has been preserved to the present day in the religious services of the Jews. It is still blown in the synagogue, as in time of old, at the Jewish New Year's festival, according to the command of Moses (Numb. xxix. 1). The *chatzozerah* was a straight trumpet, about two feet in length, and was sometimes made of silver (Numb. x. 2).

**THE DRUM.**—There can be no doubt that the Hebrews had several kinds of drums. We know, however, only of the *toph*, which appears to have been a tambourine, or a small hand-drum like the Egyptian darabouka represented in the engraving, Fig. 13.

In the English version of the Bible it is rendered *timbrel* or *tabret*. This instrument was especially used in processions, on occasions of rejoicing, and frequently by females. We find it in the hands of Miriam, when she was celebrating with the Israelitish women in songs of joy the destruction of Pharaoh's host (Exod. xv. 20); and in the hands of Jephtha's daughter, when she went out to welcome her father (Judges xi. 34). There exists at the present day in the East a small hand-drum, called *doff*, *diff*, or *adufe*—a name which appears to be synonymous with the Hebrew *toph*.

THE SISTRUM.—Winer, Saalfchütz, and several other commentators are of opinion that the *menaaneim*, mentioned in 2 Sam. vi. 5, denotes the sistrum. In the English Bible the word is rendered *cymbals*.

CYMBALS.—The *tzeltzelim*, *metzilloth*, and *metzilthaim*, appear to have been cymbals, or similar metallic instruments of percussion, differing in shape and sound.

BELLS.—The little bells on the robe of the high-priest were called *phaamon*. Small golden bells were attached to the lower part of the robes of the high-priest in his sacred ministrations (Exod. xxviii. 33, 34, and Eccus. xlv. 9). The Jews have, at the present day, in their synagogues small bells attached to the Rolls of the Law containing the Pentateuch,—a kind of ornamentation which is supposed to have been in use from time immemorial. No other Hebrew bells are known. However, in Zech. xiv. 20, “bells of the horses” are mentioned, which probably were fastened on the bridle or upon the forehead of the horses, as we find them at the present day in many countries. In some of the Assyrian bas-reliefs horses are represented wearing on the neck a little bell with a clapper. It may have been a usual custom also with the Hebrews to decorate their horses in this manner.

Besides the names of Hebrew instruments already given, there occur several others in the Old Testament, upon the real meaning of which much diversity of opinion prevails. *Jobel* (Exod. xix. 13; Jos. vi. 4, 5, 6, 8, 13) is by some commentators classed with the trumpets, but is by others believed to designate a loud and cheerful blast of the trumpet, used on particular occasions. If *Jobel* (from which *jubilare* is supposed to be derived) is identical with the name *Jubal*, the inventor of musical instruments, it would appear that the Hebrews appreciated pre-eminently the exhilarating power of music. *Shalishim* is supposed to denote a triangle. *Nechiloth*, *gittith*, and *machalath*, which occur in the headings of Psalms v., viii., liii., lxxxi., lxxxiv., lxxxviii., are also by some commentators supposed to be musical instruments. *Nechiloth* is said to have been a flute, and *gittith* and *machalath* to have been stringed instruments. Again, others maintain that the words denote peculiar modes of performance, or certain favourite melodies to which the psalms were directed to be sung, or chanted. *Machol* (Exod. xv. 20; xxxii. 19; Judg. xi. 34; xxi. 21; I. Kings iv. 31; Psalms xxx. 11; cxlix. 3; cl. 4; Song of Sol. vii. 1; Jerem. xxxi. 4, 13; Lament. v. 15) is in the opinion of some writers, a kind of flute, especially used in accompanying dances, but is more generally believed to signify the dance itself.

According to the records of the Rabbins, the Hebrews in the time of David and Solomon possessed thirty-six different musical instruments. In the Bible, however, only about half that number are mentioned.

Most nations of antiquity ascribed the invention of their musical instruments to their gods, or to certain super-human beings. The Hebrews attributed it to man. At any rate Jubal is mentioned as "the father of all such as handle the harp and organ" (*i. e.* performers on stringed-instruments and wind instruments). As instruments of percussion are almost invariably in use long before people are led to construct stringed and wind instruments it might perhaps be surmised that Jubal was not regarded as the inventor of all the Hebrew instruments, but rather as the first professional cultivator of instrumental music.

#### MUSICAL INSTRUMENTS OF THE GREEKS.

Many musical instruments of the ancient Greeks are known to us by name; but, respecting their exact construction and capabilities, there still prevails almost as much diversity of opinion as is the case with those of the Hebrews.

It is generally believed that the Greeks derived their musical system from the Egyptians. Pythagoras and other philosophers and theorists are said to have studied music in Egypt. It would, however, appear that the Egyptian influence upon Greece, as far as regards this art, has been overrated. Not only have the more perfect Egyptian instruments,—such as the larger harps, the tamboura,—never been much in favour with the Greeks; but almost all the stringed instruments which the Greeks possessed are stated to have been originally derived from Asia. Strabo (Book x., c. 3) says: "Those who regard the whole of Asia, as far as India, as consecrated to Bacchus, point to that country as the origin of a great portion of the present music. One author speaks of 'striking forcibly the Asiatic kithara,' another calls the pipes Berecynthian and Phrygian. Some of the instruments also have foreign names, as Nabla, Sambuka, Barbiton, Magadis, and many others."

We know at present little more of these instruments than that they were in use in Greece. Of the Magadis it is even not satisfactorily ascertained whether it was a stringed or a wind instrument. The other three are known to have been stringed instruments. But they cannot have been anything like such universal favourites as the lyre, since this instrument,—and perhaps the *trigonon*, are almost the only



stringed instruments represented in the Greek paintings on pottery and other monumental records. If, as might perhaps be suggested, their taste for beauty of form induced the Greeks to represent the elegant lyre in preference to other stringed instruments, we might at least expect to meet with the harp,—an instrument which equals, if it does not surpass, the lyre in elegance of form.

The representation of Polyhymnia with a harp, depicted on a splendid Greek vase now in the Munich Museum, may be noted as an exceptional instance. This valuable relic dates from the time of Alexander the Great. The instrument resembles in construction as well as in shape the Assyrian harp. It has thirteen strings. Polyhymnia is touching them with both hands, using the right hand for the treble and the left for the bass. She is seated, holding the instrument in her lap. (Fig. 24.) Even the little tuning-pegs, which in



Fig. 24.—GRECIAN HARP AND LYRES.

number are not in accordance with the strings, are placed on the sound-board at the upper part of the frame, exactly as on the Assyrian harp. If then we have here the Greek harp, it was more likely an importation from Asia than from Egypt. In short, as far as can be ascertained, the most complete of the Greek instruments appear to be of Asiatic origin. Especially from the nations who inhabited Asia Minor the Greeks are stated to have adopted several of their popular ones; and it would appear that nearly every one of these nations

excelled in the use of some particular instrument. Thus we read of the short and shrill-sounding pipes of the Carians; of the Phrygian pastoral flute, consisting of several tubes united; of the three-stringed *kithara* of the Lydians; and so on.

The Greeks called the harp *kinyra*, and this may be the reason why in the English translation of the Bible the *kinnor* of the Hebrews, the favourite instrument of King David, is rendered *harp*.

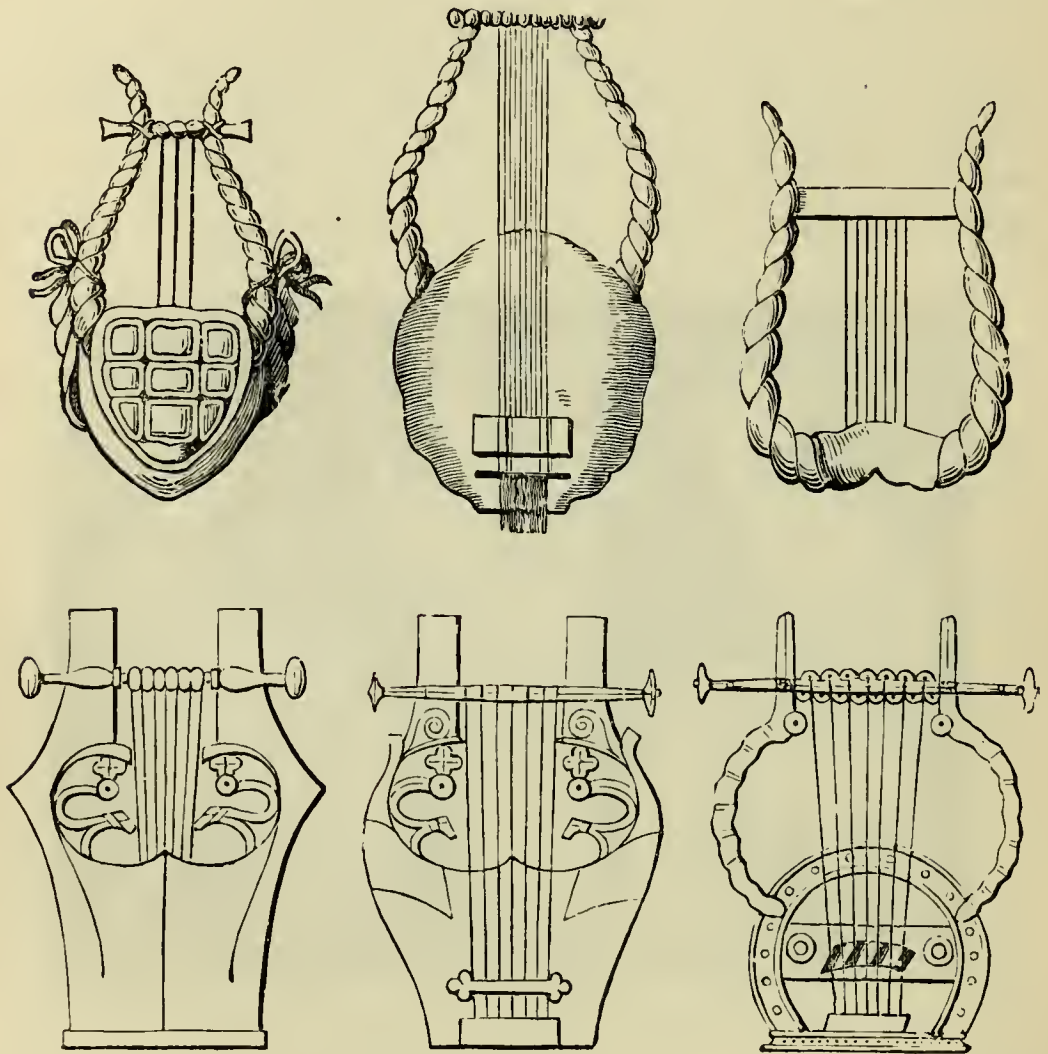


FIG. 25.—GRECIAN LYRES.

The Greeks had Lyres of various kinds, more or less differing in construction, form, and size, and distinguished by different names, such as *lyra*, *kithara*, *chelys*, *phorminx*, etc. *Lyra* appears to have implied instruments of this class in general, and also the 'lyre with a body oval at the base, and held upon the lap or in the arms of the performer; while the *kithara* had a square base and was held against the breast.

These distinctions have, however, not been satisfactorily ascertained. The *chelys* was a small lyre with the body made of the shell of a tortoise, or of wood in imitation of the tortoise. The *phorminx* was a large lyre. Like the *kithara*, it was used, at an early period, singly, for accompanying recitations. It is, however, recorded that the *kithara* was employed for solo-performances as early as B.C. 700.

The design on the Grecian vase at Munich, already alluded to, represents the Nine Muses, of which three are given in the engraving, Fig. 24, viz., Polyhymnia with the harp, and Kalliope and Erato with lyres. Various kinds of lyres, more or less ornamented, are shown in the engraving, Fig. 25. It will be observed that some are provided with a bridge, while others are without it. The largest ones were held on or between the knees, or were attached to the left arm by means of a band, to enable the performer to use his hands without impediment. The strings, made of catgut or sinew, were more usually twanged with a *plektron* than merely with the fingers. The *plektron* was a short stem of ivory or metal pointed at both ends.

A fragment of a Greek lyre, which was found in a tomb near Athens, is deposited in the British Museum. The two pieces constituting its frame are of wood. Their length is about 18 inches, and the length of the cross-bar at the top is about 9 inches. The instrument is, however, in a condition too dilapidated and imperfect to be of any essential use to the musical inquirer.

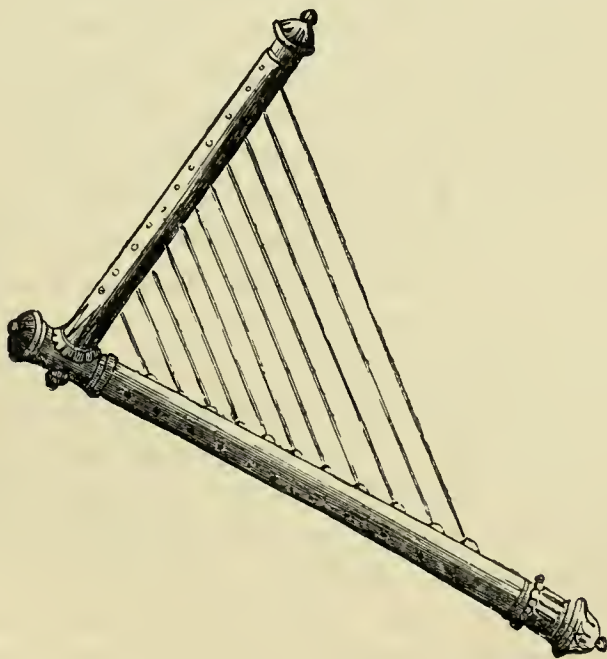


Fig. 26.—TRIGONON.



The *trigonon* consisted originally of an angular frame, to which the strings were affixed (Fig. 26). In the course of time a third bar was added to resist the tension of the strings, and its triangular frame resembled in shape the Greek Delta. Subsequently it was still further

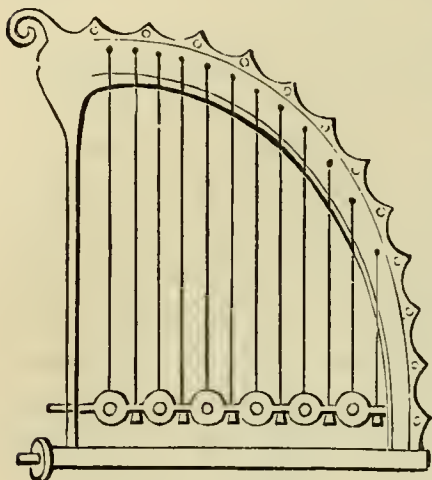


Fig 27.—A SPECIES OF TRIGONON.

improved, the upper bar of the frame being made slightly curved, whereby the instrument obtained greater strength and more elegance of form (Fig. 27).

The *magadis*, also called *pektis*, had twenty strings, which were tuned in octaves, and therefore produced only ten tones. It appears to have been a sort of dulcimer, but reliable information respecting its construction is wanting. There appears to have been also a sort of bagpipe in use, called *magadis*, of which nothing certain is known. Possibly, the same name may have been applied to two different instruments.

The *epigonion* resembled the *magadis*, but it had forty strings, probably producing twenty tones, each tone having two strings in unison or in octaves.

The *barbiton* was likewise a stringed instrument of this kind. The *sambyke* is recorded to have been invented by Ibykos, B.C. 540. The *simmikon* had 35 strings, and derived its name from its inventor, Simos, who lived about B.C. 800. It probably was a kind of dulcimer. The *nabla* had only two strings. It probably resembled the *nebel* of the Hebrews, of which but little is known with certainty. The *pandoura* is supposed to have been a kind of lute with three strings. Several of the instruments just noticed were used in Greece, chiefly by musicians who had immigrated from Asia; they can therefore hardly be considered as national musical instruments of the Greeks.

The Monochord had, as its name implies, only a single string, and was used in teaching singing and the laws of acoustics.

The flute, *aulos*, which was a highly popular instrument, differed in construction from the flutes and pipes of the ancient Egyptians. Instead of being blown through a hole at the side near the top, it was held like a flageolet, and a vibrating reed was inserted into the mouth-piece, so that it might be more properly described as a kind of oboe or clarionet. However, the Greeks designated by the name of *aulos* all wind-instruments of the flute and oboe kind, some of which were

constructed like the flageolet or like our antiquated *flûte à bec*. The single flute was called *monaulos*, and the double one *diaulos*. Remarkable is the *phorbeia*, a bandage of leather tied over the mouth of the flutist (Fig. 35). The *phorbeia* had two holes into which the tubes were inserted. It may have served for a twofold purpose; namely, to afford the performer greater facility in holding the instrument in its proper position, and to increase his power of blowing into the tube. For the purpose of arranging the intervals of the scale according to the character of the music which was to be performed, little plugs were used to close certain finger-holes. A *diaulos*, which was found in a tomb at Athens, is in the British Museum. The wood of which it is made seems to be cedar. The tubes are fifteen inches in length. Each tube has a separate mouth-piece and six finger-holes, five of which are at the upper side, and one is underneath.



Fig 28.—DIAULOS.

The *syrinx*, or Pandean pipe, had from three to nine tubes, but seven was the usual number. The straight trumpet, *salpinx*, and the curved horn, *keras*, made of brass, were used exclusively in war. The small hand-drum, called *tympanon*, resembled in shape our tambourine, but was covered with parchment at the back as well as at the front. The *kymbala* were made of metal, and resembled our small cymbals. The *krotala* were almost identical with our castanets, and were made of wood or metal.

It is unnecessary to recount the well-known mythological traditions of the ancients (Romans as well as Greeks) referring to the origin of their favourite musical instruments. Suffice it to notice one or two. Hermes (Mercury) was believed to have invented the *lyra*, and Apollo the *kithara*. The invention of the trumpet and flute was attributed to Athena (Minerva); and that of the *syrinx* to Pan.

## MUSICAL INSTRUMENTS OF THE ETRUSCANS AND ROMANS.

The Romans are recorded to have derived some of their most popular instruments originally from the Etruscans,—a people which at an early period excelled all other Italian nations in the cultivation of the arts as well as in social refinement, and which possessed musical instruments similar to those of the Greeks. It must, however, be remembered that many of the vases and other specimens of art which have been found in Etruscan tombs, and on which delineations of lyres and other instruments occur, are supposed to be productions of Greek artists, whose works were obtained from Greece by the Etruscans, or who were induced to settle in Etruria.

The flutes of the Etruscans were not unfrequently made of ivory; those used in religious sacrifices were of box-wood, of a species of the lotus, of ass' bone, bronze and silver. A bronze flute, somewhat resembling our flageolet, has been found in a tomb; likewise a huge trumpet of bronze. An Etruscan *cornu*, which is deposited in the British Museum (Fig. 29), measures about four feet in length.

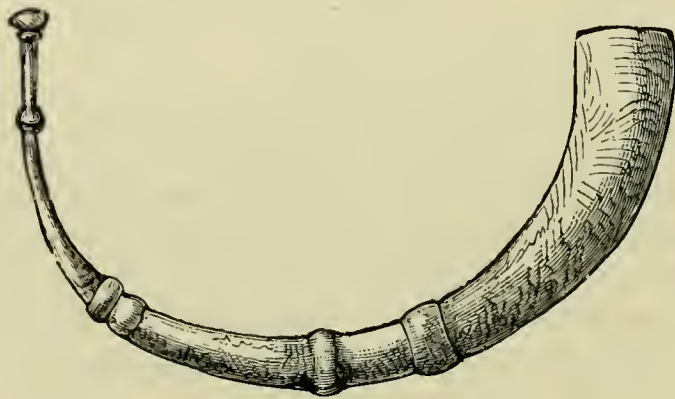


Fig. 29.—ETRUSCAN CORNU.

To the Etruscans is also attributed the invention of the Hydraulic Organ. The Greeks possessed, however, a similar contrivance, which they called *hydraulos*, *i.e.* water-flute, and which probably was identical with the *organum hydraulicum* of the Romans. The instrument ought more properly to be regarded as a pneumatic organ (or wind-organ), for the sound was produced by the current of air through the pipes,—the water applied serving merely to give the necessary pressure to the bellows and to regulate their action. There is no positive proof that



keys were used, as on our organ—or rather, as the large wooden keys of our organ-pedal, with the omission of the semi-tones,—although the hydraulic organ is thus depicted in some illustrations given in the Histories of Music by Hawkins, Forkel, and others. These illustrations have not been made from actual specimens, but merely from the rather obscure descriptions by ancient writers, transmitted to us. The pipes were probably caused to sound by means of stops, somewhat resembling those on our organ, which were drawn out or pushed in. The construction was evidently but a primitive contrivance, contained in a case which could be carried by one or two persons, and which was placed on a table. The highest degree of perfection which the hydraulic organ obtained with the ancients is probably shown in a representation on a coin of the Emperor Nero, in the British Museum, for it dates as late as the first century of the Christian era (Fig. 30). Only ten pipes are given to it, and there is no indication of any key board, which would probably have been shown had it existed. The man standing at the side and holding a laurel leaf in his hand, is supposed to represent a victor in the exhibitions of the circus or the amphitheatre. The hydraulic organ probably was played on such occasions; and the medal containing an impression of it, may have been bestowed upon the victor.



Fig. 30.—ORGANUM HYDRAULICUM.

During the time of the Republic, and especially subsequently under the reign of the Emperors, the Romans adopted many new instruments from Greece, Egypt, and even from Western Asia; without, however, essentially improving any of their importations.

Their most favourite stringed instrument was the lyre, of which they had various kinds, called, according to their form, and arrangement of strings *lyra*, *cithara*, *chelys*, *testudo*, *fidis* (or *fides*), and *cornu*. The name *cornu* was given to the lyre when the sides of the frame terminated at the top in the shape of two horns.

The *barbitos* was a kind of lyre with a large body, which gave the instrument somewhat the shape of the Welsh *crwth*.



Fig. 31.—ROMAN LYRE.

The *psalterium* was a kind of lyre of an oblong square shape. Like most of the Roman lyres, it was played with a rather large plectrum. The simple instrument shown in the engraving, Fig. 32, is supposed to be the *psalterium*. The representation from which it has been taken was found in Herculaneum. Some historians describe the *psalterium* as an instrument of the lute kind; but this appears improbable; most likely it was the square lyre.

The *trigonum* was the same as the Greek *trigonon*, and was probably originally derived from Egypt. It is recorded that a certain musician of the name of Alexander Alexandrinus was so admirable a performer upon it, that when exhibiting his skill in Rome, he created the greatest *furor*. The name of the performer implies that he was a native of Alexandria; his instrument therefore, perhaps, more resembled the Egyptian *trigonum*, Fig. 6, than the Roman. Sophocles calls the



Fig. 32.—THE SUPPOSED PSALTERIUM.  
ROMAN.



Fig. 33.—TRIGONUM. ROMAN.

*trigonum* a Phrygian instrument. A representation of a specimen with a front pillar like that shown in the woodcut, Fig. 33, has been found in Herculaneum. Less common, and derived from Asia, were the *sambuca* and *nablia*, the exact construction of which is, however, unknown.

The flute, *tibia*, was originally made of the shin bone, and had a mouth-hole, and four finger-holes. Its shape was retained even when, at a later period, it was constructed of other substances than bone. The *tibia gingrina* consisted of a long and thin tube of reed with a mouth-hole at the side of one end. The *tibia obliqua* and *tibia vasca*

were provided with mouth-pieces affixed at a right angle to the tube,—a contrivance somewhat similar to that on our bassoon. The *tibia longa* was especially used in religious worship. The *tibia curva* was curved at its broadest end. The *tibia ligula* appears to have resembled our flageolet. The *calamus* was nothing more than a simple pipe cut off the kind of reed which the ancients used as a pen for writing.

The Romans had double flutes as well as single flutes. The double flute consisted of two tubes united, either so as to have a mouth-piece in common, or to have each a separate mouth-piece. If the tubes were exactly alike, the double flute was called *Tibiæ pares*; if they were different from each other, *Tibiæ impares*. Little plugs, or stoppers, were inserted into the finger holes to regulate the order of intervals. The *tibia* was made in various shapes. The *tibia dextra* was usually

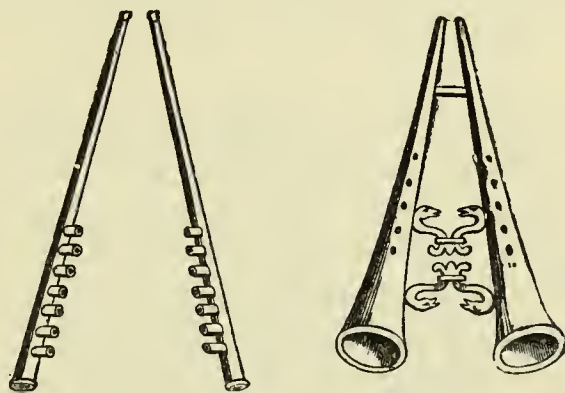


Fig. 34.—TIBIÆ PARES. ROMAN.



Fig. 35.—TIBIÆ PARES, WITH THE CAPISTRUM.

constructed of the upper and thinner part of a reed; and the *tibia sinistra*, of the lower and broader part. The performers used also the *capistrum*,—a bandage round the cheeks, identical with the *phorbeia* of the Greeks.





Fig. 36.—ROMAN GIRL PLAYING THE TIBIA.

The British Museum contains a mosaic figure of a Roman girl playing the *tibia*, which is stated to have been disinterred, in the year 1823, on the Via Appia, a famous ancient road in Italy (Fig. 36). Here the *holmos*, or mouth-piece, somewhat resembling the reed of our oboe, is distinctly shown. The finger-holes, probably four, are not indicated, although they undoubtedly existed on the instrument.

Furthermore, the Romans had two kinds of Pandean pipes, viz. the *syrinx* and the *fistula*. The bagpipe, *tibia utricularis*, is said to have been a favourite instrument of the emperor Nero.

The *cornu* was a large horn of bronze, curved. The performer held it under his arm with the broad end upwards over his shoulder.

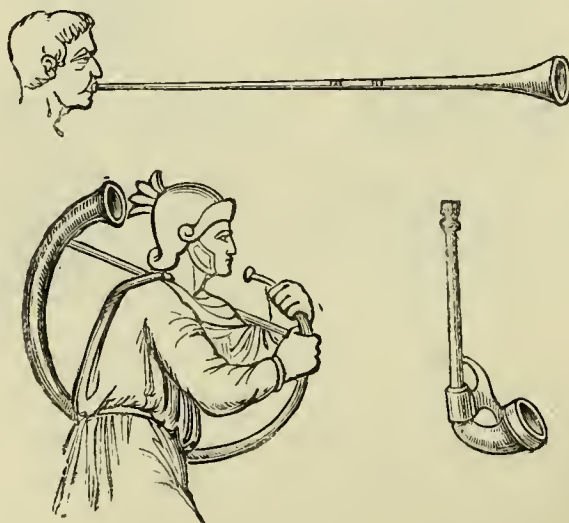


Fig. 37.—THE TUBA, CORNU, AND LITUUS.

The *tuba* was a straight trumpet. Both the *cornu* and the *tuba* were employed in war to convey signals. The same was the case with the *buccina*,—originally a conch shell, and afterwards a simple horn of an animal,—and the *lituus*, which was bent at the broad end, but otherwise straight. The *lituus* somewhat resembled the German Zinke.

The *tympanum* resembled the tambourine, and was beaten like the latter with the hands. Among the Roman Instruments of Percussion deserves to be noticed the *scabillum*, which consisted of two plates combined by means of a sort of hinge. The *scabillum* was fastened under the foot and trodden in time, to produce certain rhythmical effects in musical performances. The *cymbalum* consisted of two metal plates similar to our cymbals. The *crotala* and the *crusmata* were kinds of castanets, the former being oblong and of a larger size than the latter.



38.—CROTALA. ROMAN.

The Romans had also a *triangulum*, which resembled the triangle occasionally used in our orchestra. The *sistrum* they derived from Egypt with the introduction of the worship of Isis. Metal bells, arranged according to a regular order of intervals, and placed in a frame, were called *tintinnabula*. The *crepitaculum* appears to have been a somewhat similar contrivance on a hoop with a handle.

Through the Greeks and Romans we have the first well-authenticated proof of musical instruments having been introduced into Europe from Asia. The Romans, in their conquests, undoubtedly made their

musical instruments known, to some extent, also in Western Europe. But the Greeks and Romans are not the only nations which introduced Eastern instruments into Europe. The Phœnicians, at an early period, colonized Sardinia, and traces of them are still to be found on that island. Among these is a peculiarly constructed double-pipe called *lionedda* or *launedda*. Again, at a much later period the Arabs introduced several of their instruments into Spain, from which country they became known in France, Germany, and England. Also the Crusaders, during the 11th and 12th centuries, may have helped to familiarize the Western European nations with instruments of the East.

#### MUSICAL INSTRUMENTS OF THE CHINESE.

Allowing for any exaggeration as to chronology, natural to the lively imagination of Asiatics, there is no reason to doubt that the Chinese possessed long before our Christian era several of their popular musical instruments to which they attribute a fabulously high antiquity. Among the Chinese we meet with an ancient tradition, according to which they obtained their musical scale from a miraculous bird, called Fong-hoang, which appears to have been a sort of Phœnix. When Confucius, the famous philosopher of the Chinese, who lived about B.C. 500, happened to hear on a certain occasion some divine Chinese music, he became so greatly enraptured that he could not take any food for three months afterwards. The sounds which produced this effect were those of Kouei, the Orpheus of the Chinese, whose performance on the *king*,—a kind of harmonicon constructed of slabs of sonorous stone—would draw wild animals around him, and make them subservient to his will. As regards the invention of musical instruments, the Chinese have various traditions. In one of these we are told that the origin of some of their most popular instruments dates from the period when China was under the dominion of heavenly spirits, called Ki. Another assigns the invention of several stringed instruments to the great Fohi, called “The Son of Heaven,” who was the founder of the Chinese empire, and who lived about B.C. 3000, which was long after the dominion of the Ki, or spirits. Again, another tradition holds that the most important instruments, and systematic arrangements of sounds, are an invention of Niuva, a supernatural female, who lived at the time of Fohi, and who was a virgin-mother.

According to their historical records, the Chinese possessed their much-esteemed *king* 2200 years before our Christian era, and employed



it for accompanying sacred songs of praise. It was regarded as a sacred instrument. During religious observances, at the solemn moment when the *king* was sounded, sticks of incense were burnt. It was, likewise, played before the emperor, early in the morning when he awoke. The Chinese have long since constructed various kinds of the *king*, by using

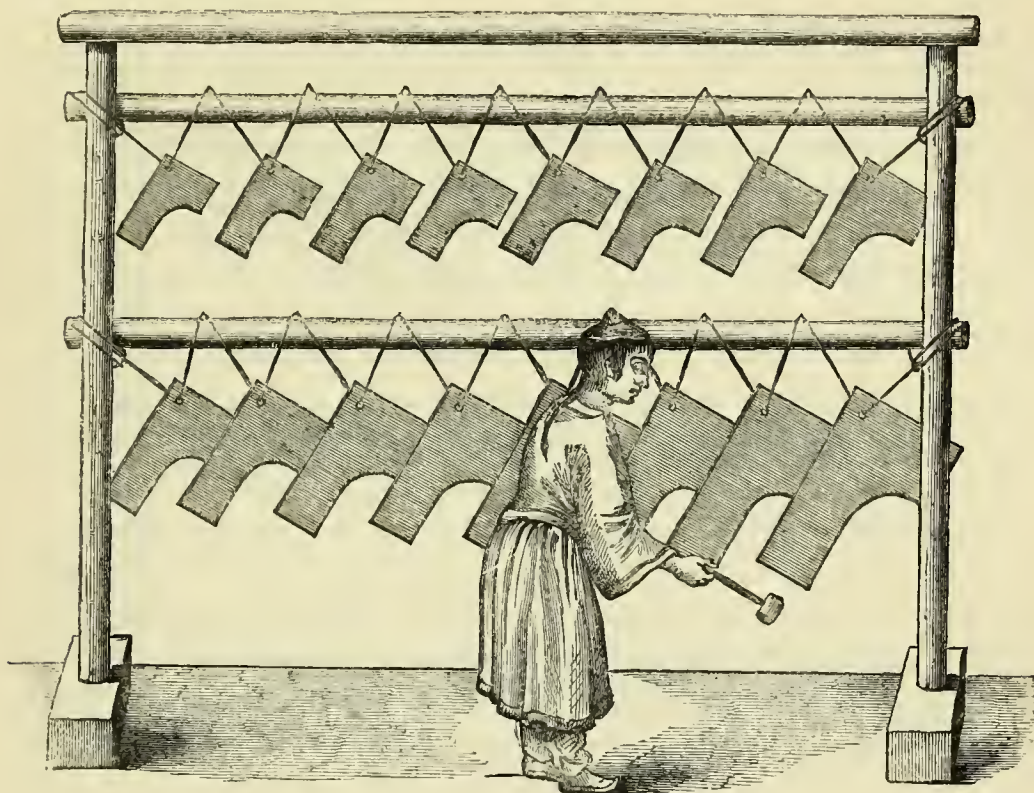


Fig. 39.—KING. CHINESE.

different species or stones. Their most famous stone selected for this purpose is called *yu*. It is not only very sonorous but also beautiful in appearance. The *yu* is found in mountain streams and crevices of rocks. The largest specimens found measure from two to three feet in diameter, but of this size specimens rarely occur. The *yu* is very hard and heavy. Some European mineralogists, to whom the missionaries transmitted specimens for examination, pronounce it to be a species of agate. It is found of different colours, and the Chinese appear to have preferred in different centuries particular colours for the *king*. At the middle of the last century, for instance, the fashionable colour of the *yu* used for the *kings* played at the court in Peking, was white, resembling whey; although the blue, red, yellow, and green stones of this kind were likewise much esteemed, especially if they were of uniform colour without shades or streaks.

The Chinese consider the *yu* particularly valuable for musical purposes, because it always retains exactly the same pitch. All other

musical instruments, they say, are in this respect unreliable; but the tone of the *yu* is neither influenced by cold nor heat, nor by humidity, nor dryness.

There are, besides the *yu*, three other species of sonorous stone esteemed in China. Of these the *hiang-che* is especially noteworthy on account of its metallic sound.

The stones used for the *king* have been cut during different centuries in various grotesque shapes. Some represent animals:—as, for instance, a bat with outstretched wings; two fishes placed side by side. Others are cut in the shape of an ancient Chinese bell. The angular shape shown in the engraving, Fig. 39, appears to be the oldest, and is still retained in the ornamented stones of the *pien-king*, which is a more modern instrument than the *king*. The tones of the *pien-king* are attuned according to the Chinese intervals called *lu*, of which there are twelve in the compass of an octave. The same is the case with the other Chinese instruments of this class. They vary, however, in pitch. The pitch of the *fung-king*, for instance, is four intervals lower than that of the *pien-king*.

Sonorous stones have always been used by the Chinese also singly, as rhythmical instruments. Such a single stone is called *tse-king*. Probably certain curious relics belonging to a temple in Peking, erected for the worship of Confucius, serve a similar purpose. In one of the outbuildings of the temple are ten sonorous stones, shaped like drums, which are asserted to have been cut about three thousand years ago. The very ancient Chinese characters engraven upon them are nearly obliterated.

It may not be out of place to notice here that also of the sonorous stones of European countries we possess some curious old records. Pliny mentions the *chalcophonos* (i.e. “founding like metal”) as a black stone which, when struck, clicks like brass. This is probably identical with our clinkstone, or phonolite, generally of a greyish colour, which, when struck with a hammer, produces a metallic sound. Pliny recommends tragic actors to carry the *chalcophonos* about them; but he does not say what advantage they may expect to derive therefrom. Perhaps the advice is only offered to poor actors who have nothing better to chink in their pockets. The *chalcophonos* appears to resemble the Chinese sonorous stone *hiang-che*, which is also found of a black colour.

The ancient Chinese had several kinds of bells, frequently arranged in sets, so as to constitute a musical scale. The Chinese name for the bell is *tchung*. At an early period they had a somewhat square-shaped bell called *té-tchung*. Like other ancient Chinese bells, it was made of copper alloyed with tin, the proportion being one pound of tin to six of copper.



The *té-tchung*, which is also known by the name of *piao*, was principally used to indicate the time and divisions in musical performances. It had a fixed pitch of sound, and several of these bells, attuned to a certain order of intervals, were not unfrequently ranged in a regular succession, thus forming a musical instrument which was called *pien-tchung* (Fig. 40). The musical scale of the sixteen bells

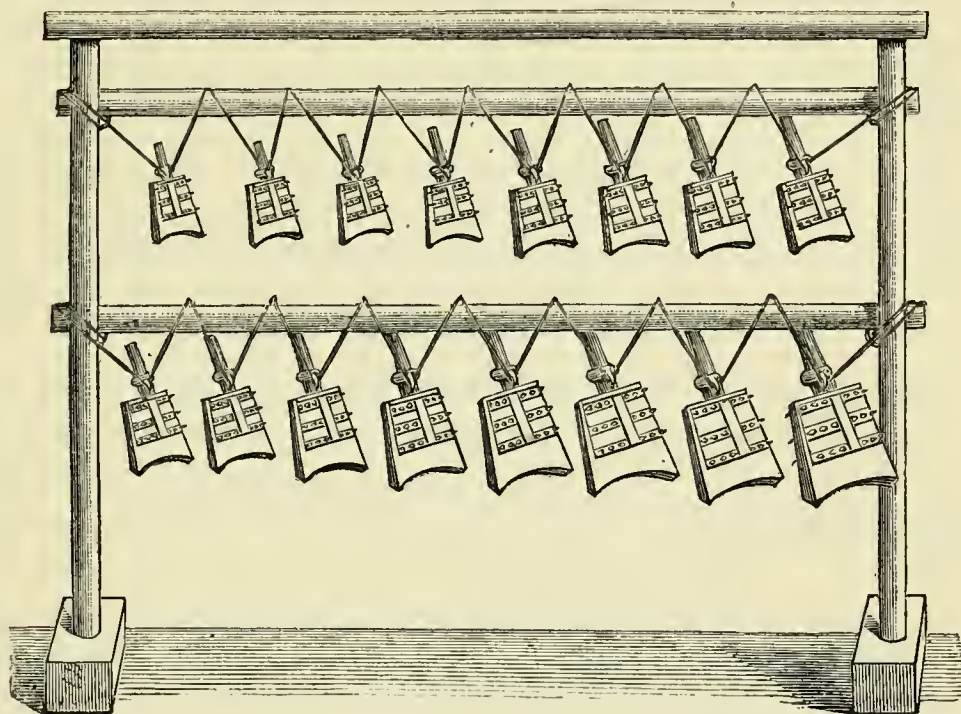


Fig. 40.—PIEN-TCHUNG. CHINESE.

which the *pien-tchung* contained, was the same as that of the *king* before mentioned.

The *hiuen-tchung* was, according to popular tradition, already enumerated with the antique instruments at the time of Confucius. It came into popular use during the Han dynasty (from B.C. 200 until A.D. 200). It was of a peculiar oval shape, and had nearly the same quaint ornamentation as the *té-tchung*; this consisted of symbolical figures. There were four divisions on it, each containing nine mammals. Its mouth was crescent-shaped. Every figure on it had a deep meaning referring to the seasons and to the mysteries of the Buddhist religion. The largest

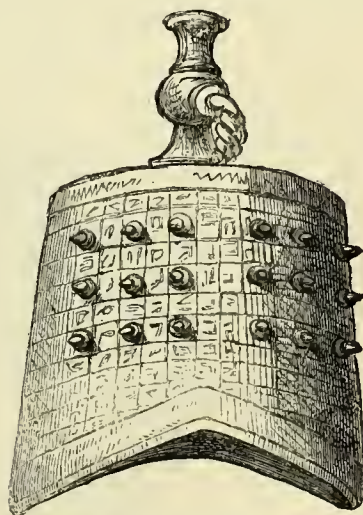


Fig. 41.—HIUEN-TCHUNG.



*hiuen-tchung* was about twenty inches in length; like the *té-tchung*, it was sounded by means of a small wooden mallet with an oval knob. None of the bells of this description had a clapper. It would, however, appear that the Chinese had at an early period some kind of bell provided with a wooden tongue. It was used for military purposes as well as for calling the people together when an imperial messenger had to promulgate his sovereign's commands. An expression of Confucius is recorded to the effect that he wished to be "A wooden-tongued bell of Heaven," *i.e.* a herald of heaven to proclaim the divine purposes to the multitude.

Again, the Chinese employed in ancient times a bell for the same purpose for which we use the tuning-fork or pitch-pipe; and this bell served also as a certain measure and weight commonly required in business transactions. One specimen appears to have been kept in a royal hall, or temple, to be referred to as a standard for the others.

The *fang-hiang* was a kind of wood-harmonicon. It contained sixteen wooden slabs of an oblong-square shape, suspended in a wooden frame elegantly decorated. The slabs were arranged in two tiers, one above the other, and were all of equal length and breadth, but differed in thickness.

The *tchoung-tou* consisted of twelve slips of bamboo and was used for beating time and for rhythmical purposes. The slips being banded together at one end could be expanded somewhat like a fan. The Chinese state that they used the *tchoung-tou* for writing upon before they invented paper.

The *ou*, likewise an ancient Chinese instrument of percussion, but still in use, is made of wood in the shape of a crouching tiger. It is hollow, and along its back are about twenty small pieces of metal,

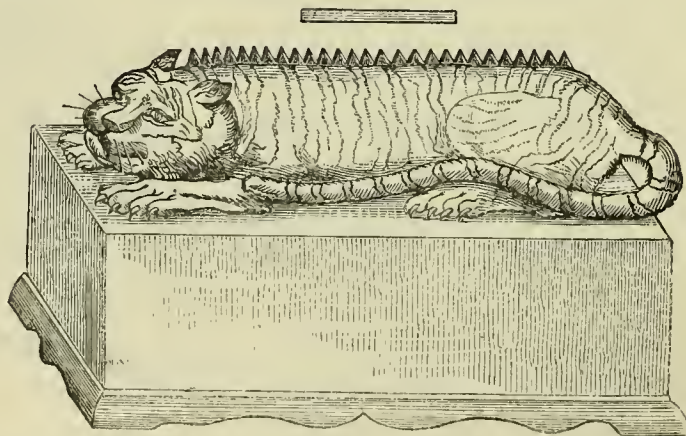


Fig. 42.—OU. CHINESE.

pointed, and in appearance not unlike the teeth of a saw. The performer strikes them with a sort of plectrum resembling a brush, or with a small stick called *tchen*. Occasionally the *ou* is made with pieces of metal shaped like reeds. Indeed, there appear to be several varieties of this instrument, as may be surmised from one of its figures, transmitted to us representing a cat, or some such member of the feline species.

The ancient *ou* was constructed with only six tones which were attuned thus,—*f, g, a, c, d, f*. The instrument appears to have become deteriorated in the course of time; for, although it has gradually acquired as many as twenty-seven pieces of metal, it evidently serves at the present day more for the production of rhythmical noise than for the execution of any melody. The *ou* is made of a species of wood called *kieou* or *tsieou*. The tiger rests generally on a hollow wooden pedestal, about three feet six inches long, which serves as a soundboard.

The *tchou*, likewise an instrument of percussion, was made of the wood of a tree called *kieou-mou*, the stem of which resembles that of the pine, and whose foliage is much like that of the cypress. It was constructed of boards about three-quarters of an inch in thickness. In the middle of one of the sides was an aperture into which the hand was passed for the purpose of holding the handle of a wooden hammer, the end of which entered into a hole situated in the bottom of the *tchou*. The handle was kept in its place by means of a wooden pin, on which it moved right and left when the instrument was struck with the hammer. The Chinese ascribe to the *tchou* a very high antiquity, as they almost invariably do with any invention of theirs whenever the date of its origin is unknown to them.

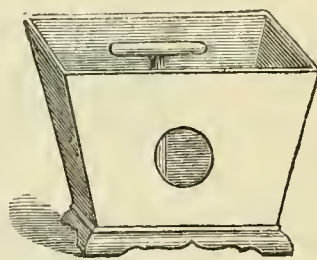


Fig. 43.—TCHOU

The *po-fou* was a drum, about one foot four inches in length, and seven inches in diameter. It had a parchment at each end, which was prepared in a peculiar way by being boiled in water. The *po-fou* used to be partly filled with a preparation made from the husk of rice. This was done to mellow the sound. The Chinese name for the drum is *kou*. The ancient Chinese had various kinds of drums, some of which were elaborately and grotesquely ornamented.

The *kin-kou*, a large drum fixed on a pedestal which raises it above six feet from the ground, (Fig. 44), is embellished with symbolical designs. A similar drum on which natural phenomena are depicted, is called *lei-kou*; and another of the kind, with figures of certain birds and beasts which are regarded as symbols of long life, is called *ling-kou*, and also *lou-kou*.

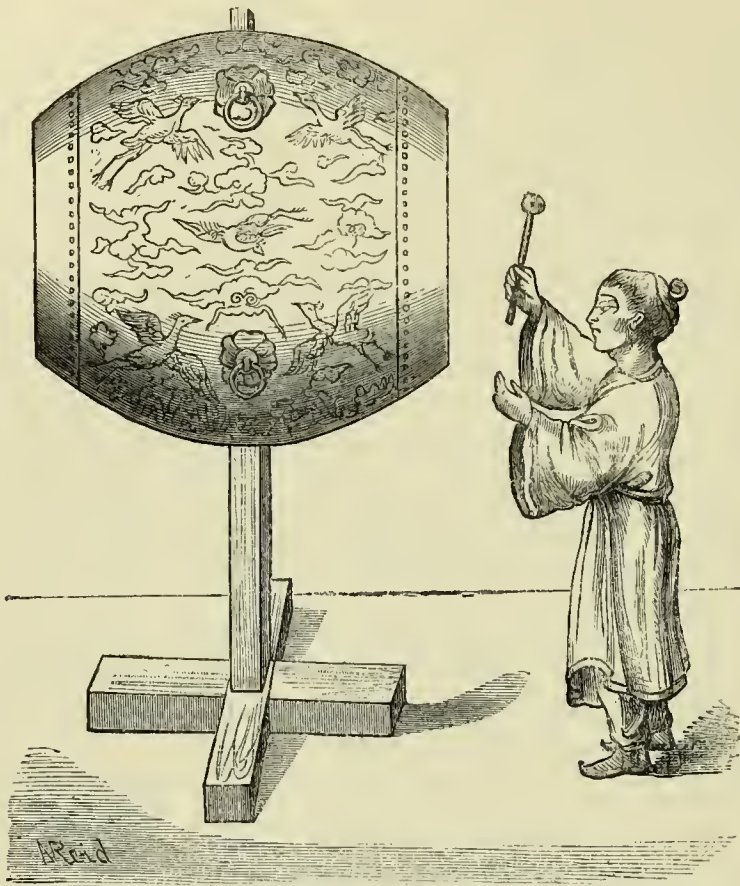


Fig. 44.—KIN-KOU. CHINESE.

The flutes, *ty*, *yo*, and *tché* were generally made of bamboo. The *koan-tsee* was a Pandean pipe containing twelve tubes of bamboo. The *siao*, likewise a Pandean pipe, contained sixteen tubes. The *pai-siao* differed from the *siao* inasmuch as the tubes were inserted into an oddly-shaped case highly ornamented with grotesque designs and filken appendages.

Furthermore, the Chinese constructed, at a very early period, a curious wind-instrument, called *hiuen*. It was made of baked clay, and had five finger-holes, three of which were placed on one side and two on the opposite side (Fig. 45). Its tones were in conformity with the pentatonic

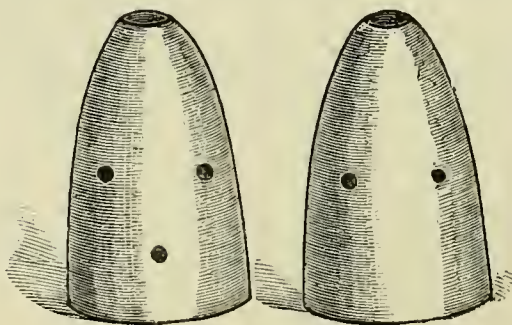


Fig. 45.—HIUEN.



scale. The reader unacquainted with the pentatonic scale may ascertain its character by playing on the pianoforte the scale of C major with the omission of *f* and *b* (the *fourth* and *seventh*); or by striking the black keys in regular succession from f-sharp to the next f-sharp above or below.

Another curious wind-instrument of high antiquity, the *cheng*, is still in use (See Fig. 116). Formerly it had either 13, 19, or 24 tubes, placed in a calabash; and a long curved tube served as a mouth-piece. In olden time it was called *yu*.

The ancient stringed instruments, the *kin* and *ché*, were of the dulcimer kind. They are still in use, and there are specimens of them in the Museum. Some account of them will be found in the Catalogue.

The Buddhists introduced from Thibet into China their god of music, who is represented as a rather jovial-looking man, with a mouftache and an imperial, playing the *pepa*, a kind of lute with four filken strings. The Kalmuks, in the vicinity of the Caspian Sea, adore the same divinity, called Maidari. The Kalmuks are Buddhists. They invaded Russia in the thirteenth century. In China the Buddhist religion obtained a footing during the first century of our Christian era. These facts point to a high antiquity for the idol Maidari, the divine musician.

Perhaps some interesting information respecting the ancient Chinese musical instruments may be gathered from the famous ruins of the Buddhist temples *Ongcor-Wat* and *Ongcor-Thôm*, in Cambodia. These splendid ruins are supposed to be above two thousand years old. At any rate, the circumstance of their age not being known to the Cambodians suggests a high antiquity. On the bas-reliefs with which these temples were enriched, are figured musical instruments, which European travellers describe as "flutes, organs, trumpets, and drums, resembling those of the Chinese." Faithful sketches of these representations might, very likely, afford valuable hints to the student of musical history.

#### MUSICAL INSTRUMENTS OF THE HINDUS.

In the Brahmin mythology of the Hindus the god Nareda is the inventor of the *vina*, the principal national instrument of Hindustan. Sarafwati, the consort of Brahma, may be regarded as the Minerva of the Hindus. She is the goddess of music as well as of speech; to her is attributed the invention of the systematic arrangement of the sounds into a musical scale. She is represented seated on a peacock and playing on a stringed instrument of the lute kind. Brahma himself we find

depicted as a vigorous man with four handsome heads, beating with his hands upon a small drum; and Vishnu, in his incarnation as Krishna, is represented as a beautiful youth playing upon a flute. The Hindus construct a peculiar kind of flute, which they consider as the favourite instrument of Krishna. Furthermore, they have the divinity Ganefa, the god of Wisdom, who is represented as a man with the head of an elephant, holding a *tamboura* in his hands.

It is a suggestive fact that we find among several nations in different parts of the world an ancient tradition, according to which their most popular stringed instrument was originally derived from the water.

In Hindu mythology the god Nareda invented the *vina*—the principal national instrument of Hindustan—which has also the name *cach'hapi*, signifying a tortoise (*testudo*). Moreover, *nara* denotes in Sanskrit "water," and *Narada*, or *Nareda*, "The Giver of Water."

Like Nareda, so Nereus and his fifty daughters, the Nereides, mentioned in Greek mythology, were renowned for their musical accomplishments.

The Scandinavian god Odin, the originator of magic songs, is mentioned as the ruler of the sea, and as such he had the name of *Nikarr*. In the depth of the sea he played the harp with his subordinate spirits, who occasionally came up to the surface of the water to teach some favoured human being their wonderful instrument.

Wainämöinen, the divine player on the Finnish *kantele*, according to the *Kalewala*, the old national Epos of the Finns, constructed his instrument of fish-bones. The frame he made out of the bones of the pike; and the teeth of the pike he used for the tuning-pegs.

Hermes, it will be remembered, made his lyre, the *chelys*, of a tortoise-shell.

Jacob Grimm, in his work on German Mythology, points out an old tradition, preserved in Swedish and Scotch national ballads, of a skilful harper who constructs his instrument out of the bones of a young girl drowned by a wicked woman. Her fingers he uses for the tuning screws, and her golden hair for the strings. The harper plays, and his music kills the murderers. A similar story is told in the old Islandic national songs; and the same tradition has been found still preserved in the Faroe Islands, as well as in Norway and Denmark.

May not the agreeable impression produced by the rhythmical flow of the waves, and the soothing murmur of running water, have led various nations, independently of each other, to the widespread conception that they obtained their favourite instrument of music from the water? Or is this notion traceable to a common source, dating from a pre-historic age,—perhaps from the early period when the Aryan race is surmised to have diffused its lore through various countries? Or did

it originate in the old belief of the world, with all its charms and delights, having arisen from a chaos in which water constituted the predominant element?

Howbeit, Nareda, the Giver of Water, was evidently also the ruler of the clouds; and Odin had his throne in the skies. Indeed, many of the musical water-spirits appear to have been originally considered as rain deities. Their music may therefore be regarded as derived from the clouds rather than from the sea. In short, the traditions respecting spirits and water are not in contradiction to the opinion of the ancient Hindus, that music is of heavenly origin, but rather tend to support this opinion.

The earliest musical instruments of the Hindus on record, have, almost all of them, remained as far as is known, in popular use until the present day scarcely altered. Besides these, the Hindus possess several Arabic and Persian instruments, which are of comparatively modern date in Hindustan, they evidently having been introduced into that country scarcely a thousand years ago, at the time of the Mahomedan irruption. There is a treatise on music extant, written in Sanskrit, which contains a description of the ancient instruments. Its title is *Sāngita rāthnakara*. If, as may be hoped, it will be translated by a Sanskrit scholar who is at the same time a good musician, we shall probably be enabled to ascertain more exactly which of the Hindu instruments of the present day are of comparatively modern origin.



Fig. 46.—VINA. HINDUSTAN.



The *vina* is undoubtedly of high antiquity. It has seven wire strings, and movable frets which are generally fastened with wax. Two hollowed gourds, often tastefully ornamented, are affixed to it for the purpose of increasing the sonorousness. There are several kinds of the *vina* in different districts; but the kind represented in the illustration, Fig. 46, is regarded as the oldest. The performer here shown is Jeewan Shah, a celebrated virtuoso on the *vina*, who lived about a hundred years ago. The Hindus divided their musical scale into intervals smaller than our semitones. They adopted twenty-two intervals, called *shruti*, in the compass of an octave. The *shruti* may therefore be compared to our chromatic intervals. But, from an old treatise, written by Soma, it is evident that the common scale of the Hindus had much the character of the pentatonic order of intervals. As the frets of the *vina* are movable, the performer can easily regulate them according to the scale, or mode, which he requires for his music.

The harp, *chang*, has become almost obsolete. If some Hindu drawings of it can be relied upon, it had at an early time a triangular frame, and was in construction as well as in shape and size almost identical with the Assyrian harp.

The Hindus claim to have invented the violin bow. They maintain that the *ravanastron*, one of their old instruments played with the bow, was invented about five thousand years ago, by Ravanon, a mighty king of Ceylon. However this may be, there is a great probability that the fiddle bow originated in Hindustan; for, Sanskrit scholars inform us that there are names for it in works which cannot be less than from 1500 to 2000 years old. These Sanskrit names are *kôna*, *gârikâ*, and *parivâdas*. The *kôna* is described as the rudest kind of bow, consisting of a cane, perhaps without any hair. It may have been made rough either by small incisions, or by the application of some kind of rosin. Howbeit, anyone may convince himself that a string—especially if it is of silk, as the strings of Asiatic instruments frequently are—may be made to sound by the friction of a long rod like that in the hand of the Assyrian musician, Fig. 16, drawn over it like a bow. The non-occurrence of any instrument played with a bow on the monuments of the nations of antiquity is by no means so sure a proof as has generally been supposed, that the bow was unknown. The fiddle, in its primitive condition, must have been a poor contrivance. It probably was despised by players who could produce better tones with greater facility, by twanging the strings with their fingers, or with a plectrum. Thus it may have remained through many centuries without experiencing any material improvement. It must also be borne in mind that the monuments transmitted to us chiefly represent historical events, religious ceremonies, and royal entertainments. On such occasions instruments

of a certain kind only were used, and these we find represented; while others, which may have been even more common, never occur. In two thousand years time people will possibly maintain that some highly perfected instrument popular with them was entirely unknown to us, because it is at present in so primitive a condition, that no one hardly notices it. If the *ravanastron* was an importation of the Mahomedans, it would most likely bear some resemblance to the Arabian and Persian instruments, and it would be found rather in the hands of the higher classes, in the towns; whereas it is principally met with among the lower order of people, in isolated and mountainous districts. Moreover, it is remarkable that the most simple kind of *ravanastron*,—there are now-a-days some varieties of this instrument,—is almost identical with the Chinese fiddle called *ur-heen*. This species has only two strings, and its body consists of a small block of wood, hollowed out, and covered with the skin of a serpent. The *ur-heen* has not been mentioned among the most ancient instruments of the Chinese, since there is no evidence of its having been known in China before the introduction of the Buddhist religion into that country. From indications, which to point out would lead too far here, it would appear that several instruments found in China originated in Hindustan. From Hindustan and Thibet they seem to have been gradually diffused, more or less altered in the course of time, in the East as far as Japan.

Another curious Hindu instrument, probably of very high antiquity, is the *poongi*, also called *toumrie* and *magoudi*. It consists of a gourd, or of the Cuddos nut, hollowed, into which two pipes are inserted. The *poongi* therefore somewhat resembles in appearance a bagpipe. It is generally used by the *Sampuris*, or snake charmers, who play upon it when they exhibit the antics of the Cobra di Capello. The name *magoudi*, given in some districts to this instrument, rather tends to corroborate the opinion of some musical historians that the *magadis* of the ancient Greeks was a sort of double-pipe, or bagpipe.

Many instruments of Hindustan are known by different names in different districts; and, besides, there are varieties of them. On the whole, the Hindus possess about fifty instruments. To describe them properly would fill a volume. Some, which are in the Museum, will be found noticed in the Catalogue.

#### MUSICAL INSTRUMENTS OF THE PERSIANS AND ARABS.

Of the musical instruments of the ancient Persians, before the Christian era, scarcely anything is known. It may, however, be fur-

mised that they closely resembled those of the Assyrians, and probably also those of the Hebrews.

The harp, *chang*, in olden time a favourite instrument of the Persians, has gradually fallen into disuetude. The illustration of a small harp given in the woodcut Fig. 47 has been sketched from the celebrated old sculptures which exist on a stupendous rock, called Tackt-i-Bostan, situated in the vicinity of the town of Kermanshah. These sculptures are said to have been executed during the lifetime of the Persian monarch Khosroo Purviz, towards the end of the sixth century of the Christian era. They form the ornaments of two lofty arches, and consist of representations of field sports and aquatic amusements. Some boats are filled with women playing upon harps, like that shown in the engraving Fig. 47. In one of the boats is seated



Fig. 47.—PERSIAN CHANG.  
VI<sup>th</sup> CENTURY.

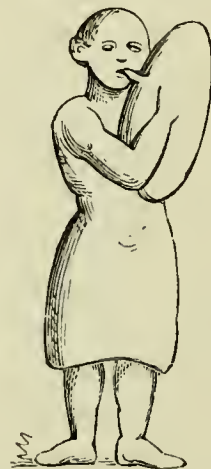


Fig. 48.—PERSIAN BAGPIPE.  
VI<sup>th</sup> CENTURY.

a man in an ornamental dress, with a halo round his head, who is receiving an arrow from one of his attendants; while a female, who is sitting near him, plays on a Trigonon. Towards the top of the bas-relief is represented a stage on which are performers on small straight trumpets, and little hand drums; six harpers; and four other musicians, apparently females,—the first of whom plays a flute; the second, a sort of Pandean pipe; the third, an instrument which is too much defaced to be recognizable; and the fourth, a bagpipe (Fig. 48). Two harps of a peculiar shape were copied by Sir Gore Ouseley from Persian manuscripts about 400 years old (Fig. 49). They resemble, in the principle on which they are constructed, all other Oriental harps. There existed evidently various kinds of the *chang*. It may be remarked here that the instrument *tschenk* (or *chang*) in use at the present day in Persia, resembles a dulcimer rather than a harp. The Arabs adopted the



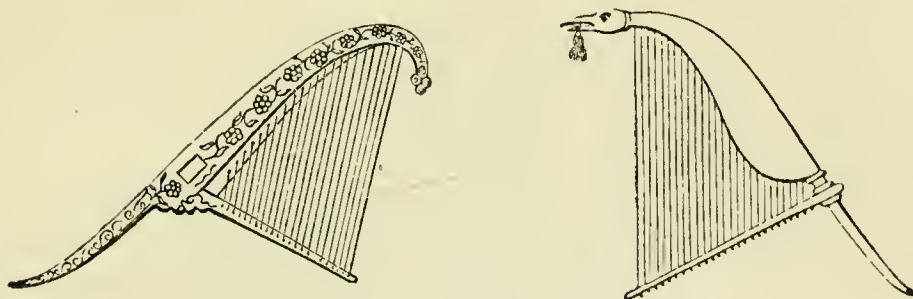


Fig. 49.—PERSIAN HARPS. ABOUT A.D. 1400.

harp from the Persians, and called it *junk*. An interesting representation of a Turkish woman playing the harp (Fig. 50) sketched from



Fig. 50.—TURKISH HARPS. XVII<sup>th</sup> CENTURY.

life by Melchior Lorich, in the seventeenth century, probably exhibits an old Persian *chang*; for the Turks derived their music principally from Persia. Here we have an introduction into Europe of the Oriental frame without a front pillar.

The Persians appear to have adopted, at an early period, smaller musical intervals than semitones. When the Arabs conquered Persia, (A.D. 641) the Persians had already attained a higher degree of civilization than their conquerors. The latter found in Persia the cultivation of music considerably in advance of, and the musical instruments superior to their own. They soon adopted the Persian instruments, and there can be no doubt that the musical system exhibited by the earliest Arab writers whose works on the theory of music have been preserved, was based upon an older system of the Persians. In these works the octave is divided into seventeen *one-third-tones*,—intervals which are still made use of in the East. Some of the Arabian instruments are constructed so as to enable the performer to produce these intervals with exactness. The frets on the lute and tamboura, for instance, are regulated with a view to this object.

The Arabs had, however, to some extent, become acquainted with the Persian instruments before the time of their conquest of Persia. An Arab musician of the name of Nadr Ben el-Hares Ben Kelde, is recorded as having been sent to the Persian king Khosroo Purviz, in the sixth century, for the purpose of learning Persian singing, and performing on the lute. Through him, it is said, the lute was brought to Mekka. Saib Chatir, the son of a Persian, is recorded as the first performer on the lute in Medina, A.D. 682; and of an Arab lutist, Ebn Soreidsch, from Mekka, A.D. 683, it is especially mentioned that he played in the Persian style, evidently the superior one. The lute, *el-oud*, had before the tenth century only four strings, or four pairs producing four tones, each tone having two strings tuned in unison. About the tenth century a string for a fifth tone was added. The strings were made of silk neatly twisted. The neck of the instrument was provided with frets of string, which were carefully regulated according to the system of seventeen intervals in the compass of an octave before mentioned. The shape of the instrument was the same as that shown in the engraving, Fig. 51, which represents a modern Egyptian playing on the *el-oud*. Other favourite stringed instruments were: the *tamboura*, a kind of lute with a long neck, and the *kanoon*, a kind of dulcimer, strung with lamb's gut strings (generally three in unison for each tone) and played upon with two little plectra which the performer had fastened to his fingers (Fig. 52). The *kanoon* is likewise still in use in countries inhabited by Mahomedans. The engraving, Fig. 53,





Fig. 51.—EL-OD, OR LUTE.



Fig. 52. KANOON.

represents an old Persian *santir*, the prototype of our dulcimer, mounted with wire strings, and played upon with two slightly curved sticks. The illustration is taken from a Persian painting in Teheran.

Al-Farabi, one of the earliest Arabian musical theorists known, who lived in the beginning of the tenth century, does not allude to the fiddle-bow. This is noteworthy inasmuch as it seems in some measure to support the opinion maintained by some historians that the bow





Fig. 53.—PERSIAN SANTIR.

originated in England or Wales. Unfortunately we possess no exact descriptions of the Persian and Arabian instruments between the tenth and fourteenth centuries, otherwise we should probably have earlier accounts of some instrument of the violin kind in Persia. Afh-shakandi, who lived in Spain about A.D. 1200, mentions the *rebab*, which may have been in use for centuries without having been thought worthy of notice, on account of its rudeness. Persian theorists of the fourteenth

century mention two instruments of the violin class, viz., the *rebab* and the *kemangeh*. As regards the *kemangeh*, the Arabs themselves assert that they obtained it from Persia, and their statement appears all the more worthy of belief from the fact that both names, *rebab* and *kemangeh* are originally Persian.

The *nay*, a flute (Fig. 54) and the *furnay*, a species of oboe, are still popular in the East.



Fig. 54.—NAY.

The Arabs must have been indefatigable constructors of musical instruments. Kiewewetter (who wrote a dissertation on the music of the Arabs, in co-operation with the distinguished Oriental scholar Freiherr Hammer-Purgstall) gives a list of above two hundred names of Arabian instruments, and this list does not include many known to us through Spanish historians. A careful investigation of the musical instruments of the Arabs during their sojourn in Spain is particularly interesting to the student of mediæval music, inasmuch as it reveals the Eastern origin of many instruments which are generally regarded as European inventions. Introduced into Spain by the Saracens and the Moors, they were gradually diffused towards northern Europe. The English, for instance, adopted not only the Moorish Dance ("Morrice Dance") but also the *kuitra* ("gittern") the *el-oud* ("lute"), the *rebab* ("rebec"), the *nakkarah* ("naker"), and several others. In an old Cornish sacred drama, surmised to date from the fourteenth



century, we have in an enumeration of musical instruments the *nakrys*, designating "kettle-drums." It must be remembered that the Cornish language, which has now become obsolete, was nearly akin to the Welsh. Indeed, names of musical instruments derived from the Moors in Spain, occur in almost every European language.

Moreover, fanciful stories are traditionally preserved among the Arabs testifying to the wonderful effects they ascribed to the power of their instrumental performances. One example will suffice. Al-Farabi had acquired his proficiency in Spain, in one of the schools at Cordova, which flourished as early as towards the end of the ninth century. The reputation of Al-Farabi became so great, that ultimately it extended to Asia. The mighty Caliph of Bagdad himself desired to hear the celebrated musician, and sent messengers to Spain with instructions to offer rich presents to him and to convey him to the Caliph's court. But Al-Farabi feared that if he went he should be retained in Asia, and should never again see his home to which he felt deeply attached. However, at last he resolved to disguise himself, and to undertake the journey which promised him a rich harvest. Dressed in a mean costume, he made unrecognized his appearance at the court just at the time when the mighty Caliph was being entertained with his daily concert. Al-Farabi, unknown to everyone was permitted to exhibit his skill on the lute. Scarcely had he commenced his performance, in a certain musical mode, when he set all his audience laughing aloud, notwithstanding the efforts of the courtiers to suppress so unbecoming an exhibition of mirth in the presence of the Caliph. In truth, even the Caliph himself was compelled to burst out into a fit of laughter. Presently the performer changed to another mode, and the effect was, that immediately all his hearers began to sigh, and soon tears of sadness replaced the previous tears of mirth. Again he played in another mode, which excited his audience to such a rage that they would have fought each other if he, seeing the danger, had not directly gone over to an appeasing mode. After this wonderful exhibition of his skill Al-Farabi concluded in a mode which had the effect of making his listeners fall into a profound sleep, during which he took his departure.

It will be seen that this incident is almost identical with one recorded as having happened about twelve hundred years earlier at the court of Alexander the Great, and which forms the subject of Dryden's fine poem 'Alexander's Feast.' The distinguished flutist Timotheus playing before Alexander, successively aroused and subdued different passions by changing the musical modes during his performance, exactly in the same way as did Al-Farabi more than a thousand years later.



## MUSICAL INSTRUMENTS OF THE AMERICAN INDIANS.

If the preserved antiquities of the American Indians, dating from a period anterior to our discovery of the Western Hemisphere, possess an extraordinary interest inasmuch as they afford reliable evidence of the degree of progress which the aborigines had attained in the cultivation of the arts, and in their social condition before they came in contact with Europeans, it must be admitted that the ancient musical instruments of the American Indians are also worthy of examination. Several of them are constructed in a manner which, in some degree, reveals the characteristics of the musical system prevalent among the people who used the instruments. And, although most of these interesting relics, which have been obtained from tombs and other hiding-places, may not be of great antiquity, it has been satisfactorily ascertained that they are genuine contrivances of the Indians before they were influenced by European civilization.

Some account of these relics is therefore likely to prove of interest also to the ethnologist, especially as several facts, which will be stated, may perhaps be found of assistance in elucidating the still unsolved problem as to the probable original connection of the American aborigines with Asiatic races.

Among the instruments of the Aztecs in Mexico, and of the Inca Peruvians, none have been found so frequently, and have been preserved in their former condition so unaltered, as pipes and flutes. They are generally made of pottery or of bone, substances which are unsuitable for the construction of most other instruments, but which are remarkably well qualified to withstand the decaying influence of time. There is, therefore, no reason to surmise from the frequent occurrence of such instruments that they were more common than some other kinds of which specimens have rarely been discovered.

The Mexicans possessed a small whistle formed of baked clay, a considerable number of which have been found. Some specimens are singularly grotesque in shape, representing caricatures of the human face and figure, birds, beasts, and flowers. Some were provided at the top with a finger-hole which, when it was closed, altered the pitch of the sound, so that two different tones were producible on the instrument.

Others had a little ball of baked clay lying loose inside the air-chamber. When the instrument was blown the current of air set the ball in a vibrating motion, thereby causing a shrill and whirring sound.

A similar contrivance is sometimes made use of by our sportsmen for conveying signals. The Mexican whistle most likely served principally the same purpose, but it may possibly have been used also in musical entertainments. In the Russian Horn Band each musician is restricted

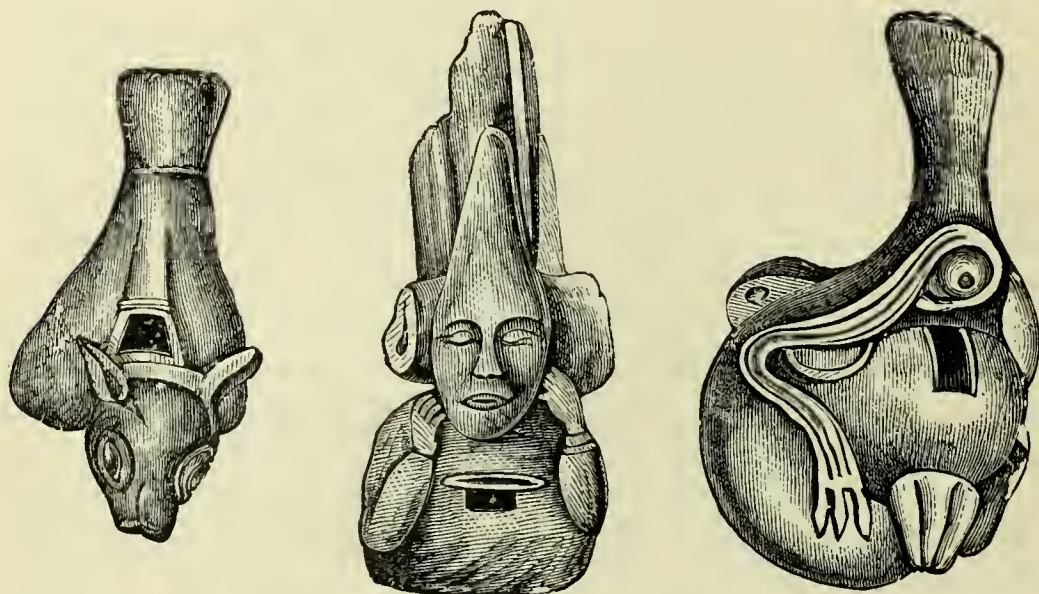


Fig. 55.—WHISTLES OF THE AZTECS.

to a single tone ; and similar combinations of performers, — only, of course, much more rude, — have been witnessed by travellers among some tribes in Africa and America. Sir Robert Schomburgk, for instance, mentions a concert of this description as a common entertainment of the Warrau Indians in Guiana.

Rather more complete than the above specimens are some of the whistles and small pipes which have been found in graves of the Indians of Chiriqui in Central America. The one which is represented in the accompanying engraving, Fig. 56, appears, to judge from the somewhat obscure description transmitted to us, to possess about half a dozen tones. It is of pottery, painted in red and black on a cream-coloured ground.

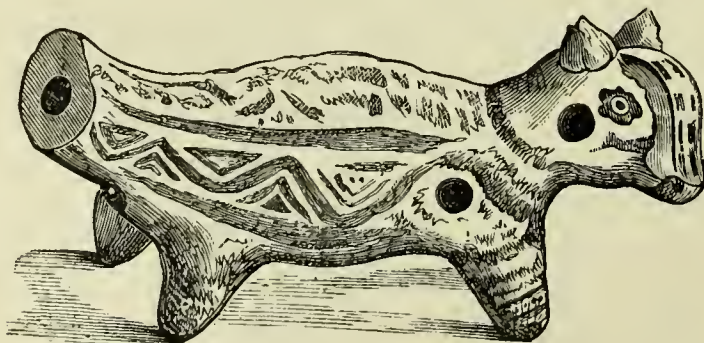
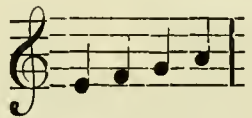


Fig. 56.—ANTIQUÉ PIPE FROM CENTRAL AMERICA.




Its length is about five inches. Among the instruments of this kind from Central America, the most complete ones have four finger-holes. By means of three of the holes the following four sounds (including the sound which is produced when none of the holes are closed) can be

emitted:  The fourth finger-hole, when closed, has

the effect of lowering the pitch a semitone. By a particular process two or three lower notes are obtainable.

The pipe of the Aztecs which is called by the Mexican Spaniards *pito*, somewhat resembled our flageolet. Its material was a reddish pottery, and it was provided with four finger-holes. Although, among about half a dozen specimens, which the writer of this essay has examined, some are considerably larger than others, they all have, singularly enough, the same pitch of sound. The smallest is about six inches in length, and the largest about nine inches. Several *pitos* have been found in a remarkably well-preserved condition. They are easy to blow, and their order of intervals is in conformity with the pentatonic

scale, thus  The usual shape of the *pito* is that

represented in the engraving, Fig. 57, which exhibits the upper side of

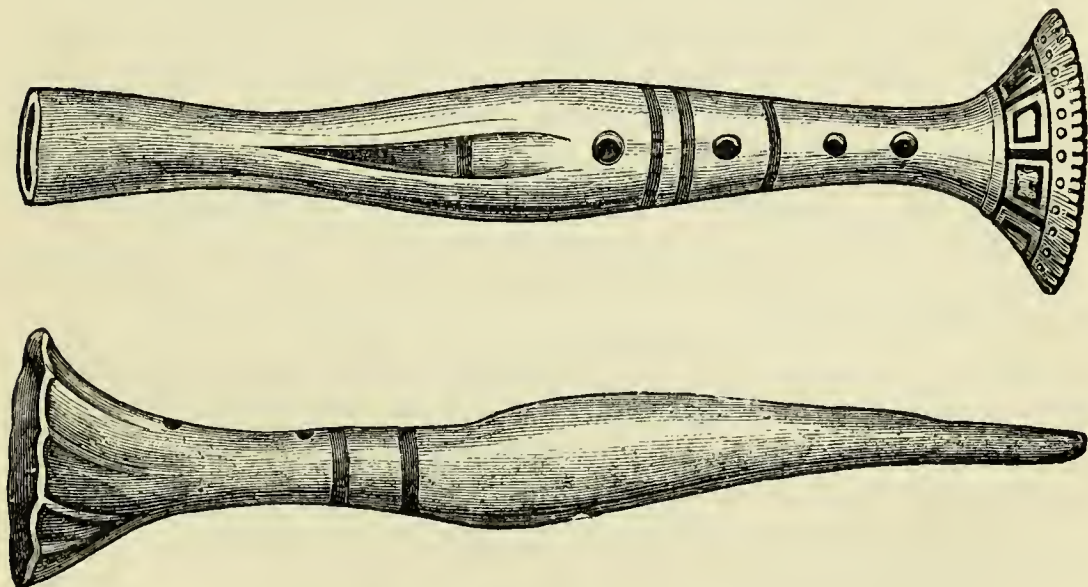


Fig. 57.—PIPES OF THE AZTECS.

one pipe, and a side view of another. A specimen of a less common shape (Fig. 58) is in the British Museum. Indications suggestive of the



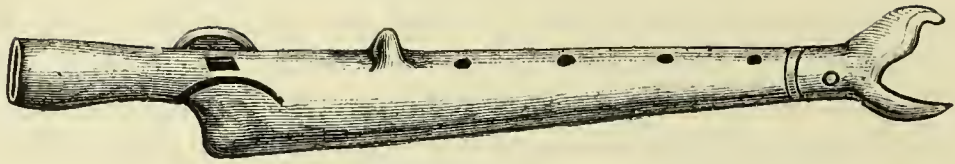


Fig. 58.—A PIPE OF THE AZTECS.

popular estimation in which the flute (or perhaps, more strictly speaking, the pipe) was held by the Aztecs are not wanting. It was played in religious observances, and we find it referred to allegorically in orations delivered on solemn occasions. For instance, at the religious festival which was held in honour of Tezcatlepoca,—a divinity depicted as a handsome youth, and considered second only to the Supreme Being—a young man was sacrificed who in preparation for the solemn ceremony had been instructed, besides in certain prescribed rites which he had to observe, also in the art of playing the flute. Twenty days before his death, four young girls, named after the principal goddesses, were given to him as companions. And when the awful hour arrived in which he was to be sacrificed, and he ascended the temple, he observed the established symbolical rite of breaking a flute on each of the steps.

Again, at the public ceremonies which took place on the accession of a prince to the throne, the new monarch addressed a prayer to the Divinity, in which occurred the following allegorical expression:—"I am thy flute; reveal to me thy will; breathe into me thy breath like into a flute, as thou hast done to my predecessors on the throne. As thou hast opened their eyes, their ears, and their mouth to utter what is good, so likewise do to me. I resign myself entirely to thy guidance." Similar sentences occur in the orations addressed to the monarch. In reading them one can hardly fail to be reminded of Hamlet's reflections addressed to Guildenstern, when the servile courtier expresses his inability to "govern the ventages" of the pipe, and to make the instrument "discourse most eloquent music," which the prince bids him to do.

M. de Castelnau, in his '*Expedition dans l'Amerique*,' gives among the illustrations of objects discovered in ancient Peruvian tombs, a flute made of a human bone. It has four finger-holes at its upper surface, and appears to have been blown into at one end. Two bone-flutes, in appearance similar to the engraving given by M. de Castelnau, which have been disinterred at Truxillo, are deposited in the British Museum. They are about six inches in length, and each is provided with five finger-holes. One of these has all the holes at its upper side, and one of the holes is considerably smaller than the rest. This specimen (Fig. 59) is ornamented with some simple designs in black.

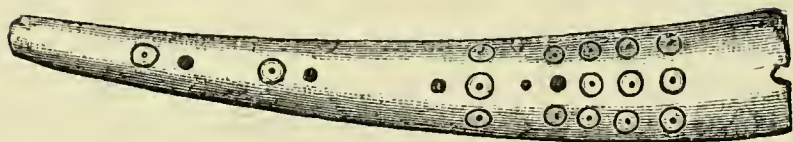


Fig. 59.—ANTIQUÉ PERUVIAN BONE-FLUTE.

The other has four holes at its upper side, and one underneath, the latter being placed near to the end at which the instrument evidently was blown. In the aperture of this end some remains of a hardened paste, or resinous substance, are still preserved. This substance probably was inserted for the purpose of narrowing the end of the tube, in order to facilitate the producing of the sounds. The same contrivance is still resorted to in the construction of the bone-flutes by some Indian tribes in Guiana. The bones of slain enemies appear to have been considered especially appropriate for such flutes. Ignatius Molina relates of the Araucanians that whenever they had been successful in battle, it was their practice to sacrifice one of the captives to the manes of their warriors slain by the enemy. Having killed the unhappy prisoner, they made flutes of his bones, danced and “thundered out their dreadful war-songs, accompanied by the mournful sounds of these horrid instruments.” And Alonso de Ovalle says of the Indians in Chili: “Their flutes, which they play upon in their dances, are made of the bones of the Spaniards and other enemies whom they have overcome in war. This they do by way of triumph and glory for their victory. They make them likewise of bones of animals; but the warriors dance only to the flutes made of their enemies.” The Mexicans and Peruvians obviously possessed a great variety of pipes and flutes, some of which are still in use among certain Indian tribes. Those which were found in the famous ruins at Palenque are deposited in the Museum in Mexico. They are:—The *cuyvi*, a pipe on which only five tones were producible; the *huayllaca*, a sort of flageolet; the *pincullu*, a flute; and the *chayna*, which is described by Rivero and Tschudi as “a flute whose lugubrious and melancholy tones filled the heart with indescribable sadness, and brought involuntary tears into the eyes.” It was perhaps, properly speaking, a kind of oboe. At any rate, the *jaina*, constructed at the present day by some Indian tribes in Peru, is described by travellers as being provided with a reed; and the *jaina* is probably the same instrument which the ancient Peruvians called *quena*, and the Mexicans *chayna*.

Moreover, the Peruvians had the syrinx, which they called *huayra-puhura*. Some clue to the meaning of this name may be gathered from the word *huayra*, which signifies “air.” The *huayra-puhura* was made

of cane, and also of stone. Sometimes an embroidery of needle-work was attached to it as an ornament. One specimen which has been disinterred is adorned with twelve figures precisely resembling Maltese crosses. However, the cross is a figure which may be supposed to suggest itself very naturally; and it is therefore not so surprising, as it may appear at a first glance, that the American Indians used it not unfrequently in designs and sculptures before they came in contact with Christians.

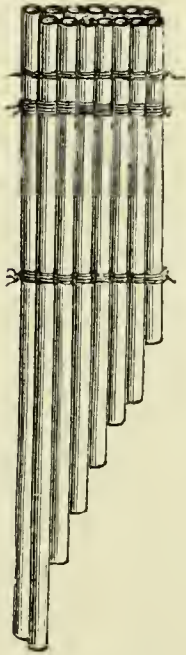


Fig. 60.—HUAYRA-PUHURA OF THE INCA PERUVIANS.

The British Museum possesses a *huayra-puhura* (Fig. 60) consisting of fourteen reed pipes, of a brownish colour, tied together in two rows, by means of thread, so as to form a double set of seven reeds. Both sets are almost exactly of the same dimension, and are placed side by side. The shortest of these reeds measure three inches, and the longest six inches and a half. In one set they are open at the bottom, and in the other they are closed. Consequently, octaves are produced. The reader is probably aware that the closing of a pipe at the end raises its pitch an octave. Thus, in our organ, the so-called Stopped Diapason, a set of closed pipes, requires tubes of only half the length of those which constitute the Open Diapason, although both these stops produce tones in the same pitch,—the only difference between them being the quality of sound, which in the former is less bright than in the latter.

The tones yielded by the *huayra-puhura* in question are as follows :



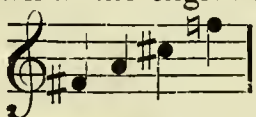
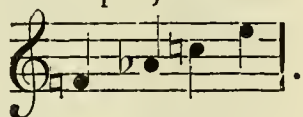
The highest octave is indistinct, owing to some

injury done to the shortest tubes; but, sufficient evidence remains to show that the intervals were purposely arranged according to the pentatonic scale. This interesting relic was brought to light from a tomb at Arica.

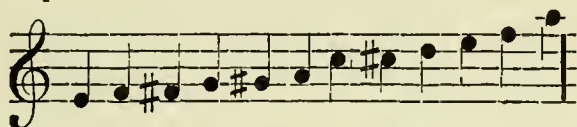
Another *huayra-puhura*, likewise still yielding sounds, was discovered placed over a corpse in a Peruvian tomb, and was procured by the French General Paroissien. This instrument is made of a greenish stone, which is a species of talc. It contains eight pipes. The Berlin Museum possesses a plaster cast taken from this curious relic. Its height is  $5\frac{3}{8}$  inches, and its width  $6\frac{1}{4}$  inches. Four of the tubes have small lateral finger-holes, which, when closed, lower the pitch a semitone.



These holes are on the second, fourth, sixth, and seventh pipe, as shown in the engraving, Fig. 61. When the holes are open, the tones

are ; and when they are closed .

The other tubes have unalterable tones. The following notation exhibits all the tones producible on the instrument :



The musician is likely to speculate what could have induced the Peruvians to adopt so strange a series of intervals. Indeed, it seems rather arbitrary than premeditated.

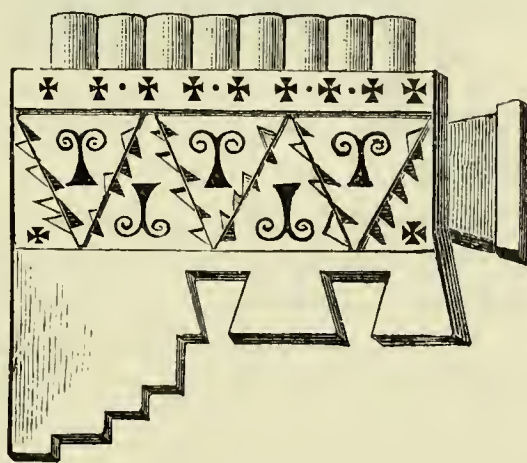


Fig. 61.—HUAYRA-PUHURA OF THE INCA PERUVIANS.

However, if—as appears not improbable—the Peruvians considered those tones which are produced by closing the lateral holes, as additional intervals only, a variety of scales, or kinds of *modes*, may have been contrived by the admission of one or other of these tones among the essential ones. At any rate, to conjecture from some remarks of Garcilasso de la Vega, and other historians, the Peruvians appear to have used different orders of intervals for different kinds of tunes, in a way similar to what we find to be the case with certain Asiatic nations. We are told for instance, “Each poem, or song, had its appropriate tune, and they could not put two different songs to one tune; and this was why the enamoured gallant, making music at night on his flute, with the tune which belonged to it, told the lady and all the world the joy or sorrow of his soul, the favour or ill-will which he possessed; so that it might be said that he spoke by the flute.” Thus also the Hindus have certain tunes for certain seasons and fixed occasions, and likewise a number of different modes, or scales, used for particular kinds of songs.

Trumpets are often mentioned by historians who have recorded the manners and customs of the Indians at the time of the discovery of America. There are, however, scarcely any reliable illustrations of these instruments transmitted to us. The Conch was frequently used as a trumpet for conveying signals in war.

The engraving, Fig. 62, represents a kind of trumpet made of wood, and nearly seven feet in length, which Gumilla found among the Indians in the vicinity of the Orinoco. It somewhat resembles the *juruparis*, a

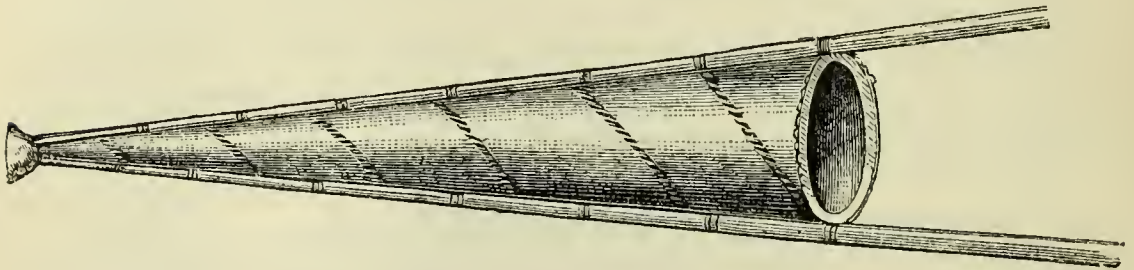


Fig. 62.—TRUMPET OF THE INDIANS IN THE VICINITY OF THE ORINOCO.

mysterious instrument of the Indians on the Rio Haupés, a tributary of the Rio Negro, South America. The *juruparis* is regarded as an object of great veneration. Women are never permitted to see it. So stringent is this law, that any woman obtaining a sight of it is put to death,—usually by poison. No youths are allowed to see it until they have been subjected to a series of initiatory fastings and scourgings. The *juruparis* is usually kept hidden in the bed of some stream, deep in the forest; and no one dares to drink out of that sanctified stream, or to bathe in its water. At feasts the *juruparis* is brought out during the night, and is blown outside the houses of entertainment. The inner portion of the instrument consists of a tube made of slips of the Paxiaba palm (*Triarteia exorrhiza*). When the Indians are about to use the instrument, they nearly close the upper end of the tube with clay, and tie above the oblong square hole, shown in the engraving, Fig. 63, a portion of the leaf of the Uaruma, one of the arrow-root family. Round the tube are wrapped long strips of the tough bark of the Jébaru (*Parivoa grandiflora*), a Cæsal-pineous tree. This covering descends in folds below the tube. The length of the instrument is from four to five feet. The present illustration, which exhibits the *juruparis* with its cover and without it, has been taken from a specimen in the Museum at Kew Gardens. The mysteries connected with this trumpet are evidently old tradition from the Indian ancestors. *Jurupari* means “Demon”; and with several Indian tribes on the Amazon river customs and ceremonies still prevail in honour of Jurupari.

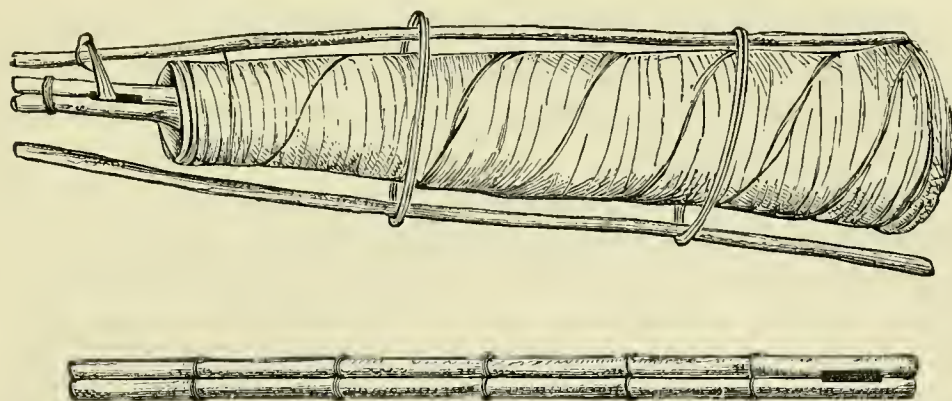


Fig. 63.—JURUPARIS. SOUTH AMERICA.

The Caroados, an Indian tribe in Brazil, have a war trumpet which closely resembles the *juruparis*. With this people it is the custom for the chief to give on his war trumpet the signal for battle, and to continue blowing as long as he wishes the battle to last. As soon as he discontinues blowing his trumpet, his warriors will leave off fighting. During the battle he is generally standing on a hill; or, if there is no hill near, he will place himself on a tree, from which he will convey signals to his people. The trumpet is made of wood, and its sound is described by travellers as very deep, but rather pleasant. The sound is easily produced, and its continuance does not require much exertion; but a peculiar vibration of the lips is necessary, which requires practice.

Another trumpet, the *turé*, is common with many Indian tribes on the river Amazon, who use it chiefly in war. It is made of a long and thick bamboo, and there is a split reed in the mouthpiece. It therefore partakes rather of the character of an oboe or clarinet. Its tone is described as loud and harsh. The *turé* is especially used by the sentinels of predatory hordes, who, mounted on a lofty tree, give the signal of attack to their comrades.

Again, the aborigines in Mexico have a curious contrivance of this kind, the *acocotl*, now more usually called *clarin*. The former word is its old Indian name, and the latter appears to have been first given to the instrument by the Spaniards. The *acocotl* consists of a very thin tube, from eight to ten feet in length, and generally not quite straight, but with some irregular curves. This tube, which is often not thicker than a couple of inches in diameter, terminates at one end in a sort of "bell," and has at the other end a small mouthpiece resembling in shape that of a clarinet. The tube is made of the dry stalk of a plant which is common in Mexico, and which likewise the Indians call *acocotl*. The most singular characteristic of the instrument is that



the performer does not blow into it, but inhales the air through it,—or rather, he produces the sound by sucking the mouthpiece. It is said to require strong lungs to perform on the *acocotl* effectively according to Indian notions of taste.

The name of the Peruvian trumpet was *cqueppa*. Acosta mentions a wind instrument of the Peruvians, called *choismia*, which had a bright and stirring quality of sound, like a trumpet. In his description of a religious sacrifice, at which the chief of a tribe used to throw gold and precious jewels into a river, or lake, as an offering to the protecting water-spirits, Acosta mentions vocal performances, the subjects of which referred to the ancient history of the country, to the gods, to heroes, and to battles and other memorable events, which in this way were transmitted from generation to generation. At the entrance to the dwelling of the chief were stationed two naked old Indians, one on each side the door, both playing the *choismia*. Herrera mentions that the Indians in Cuba used to blow horns, producing exceedingly loud sounds. Likewise the Indians in Ecuador employed horns, or trumpets, in their warlike exploits.

The *botuto* (Fig. 64), which Gumilla saw used by some tribes near the river Orinoco, was evidently an ancient Indian contrivance, but

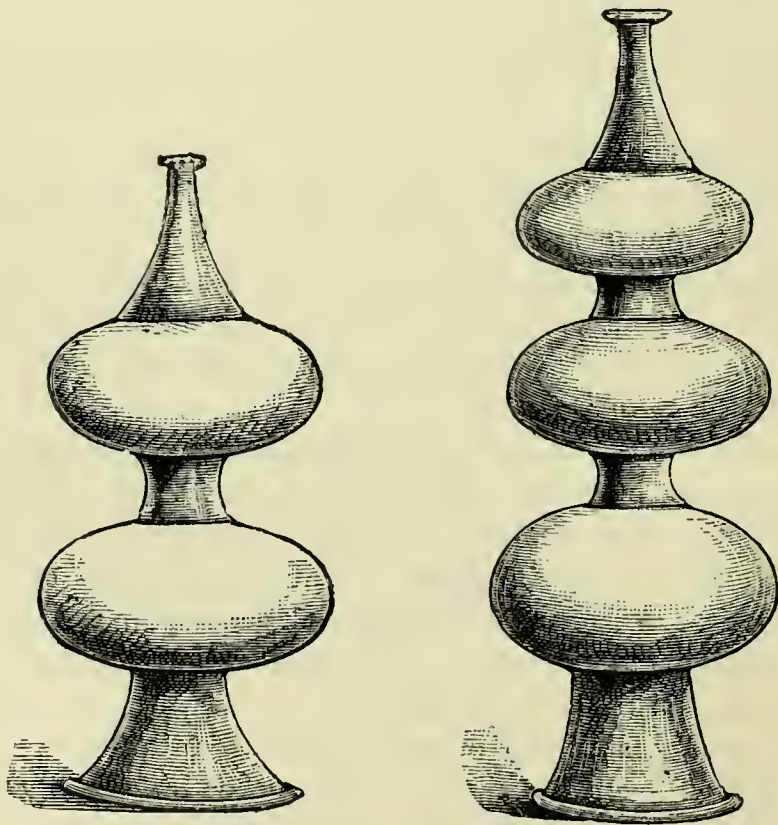


Fig. 64.—ANTIQUE TRUMPETS OF THE INDIANS IN GUIANA.

appears to have fallen almost into oblivion during the last two centuries. It was made of baked clay, and was commonly from three to four feet long. However, some trumpets of this kind were of enormous size. The *botuto* with two bellies was usually made thicker than that with three bellies, and emitted a deeper sound, which is described as having been really terrific. These trumpets were used on occasions of mourning and funeral dances.

Alexander von Humboldt saw the *botuto* among some Indian tribes near the river Orinoco. He observed that its guardianship is generally confided to some old Indians who pretend to be better instructed in divine things than others, and who found it under the palm trees to make them bear abundance of fruit. "On the bank of the Orinoco," Humboldt says in his *Travels to the Equinoctial Regions of America*, "there exist no idols, as among all the nations who have remained faithful to the first worship of nature; but the *botuto*, the sacred trumpet, is an object of veneration. To be initiated into the mysteries of the *botuto*, it is requisite to be of pure morals, and to have lived single. The initiated are subjected to flagellations, fastings, and other painful exercises. There are but a small number of these sacred trumpets. The most anciently celebrated is that upon a hill near the confluence of the Tomo and the Guainia. It is pretended that this instrument is heard at once on the banks of the Tuamini and at the Mission of San Miguel de Davipe, a distance of ten leagues. Father Cerefo assured me that the Indians speak of the *botuto* of Tomo as an object of worship common to many surrounding tribes. Fruit and intoxicating liquors are placed beside the sacred trumpet. Sometimes the Great Spirit himself makes the *botuto* resound; sometimes he is content to manifest his will through him to whom the keeping of the instrument is entrusted. These juggleries being very ancient,—from the fathers of our fathers, say the Indians,—we must not be surprised that some unbelievers are already to be found; but they express their disbelief in the mysteries of the *botuto* only in whispers. Women are not permitted to see this marvellous instrument, and are excluded from all the ceremonies of this worship. If a woman have the misfortune to see the trumpet, she is put to death without mercy."

Besides those which have been noticed, other antique wind-instruments of the Indians are mentioned by historians; but the descriptions given of them are too superficial to convey a distinct notion as to their form and purport. Moreover, several of these contrivances scarcely deserve to be classed with musical instruments. This may, for instance, be said of certain musical jars, or earthen vessels producing sounds, which

the Peruvians constructed for their amusement. These vessels were made double. Rivero and Tschudi observe:—"They were made in such perfection that, when they were filled with a liquid, the air, escaping through the opening left for that purpose, produced sounds at times very musical. These sounds sometimes imitated the voice of the animal which was represented by the principal part of the vessel, as in a beautiful specimen we have seen which represents a cat, and which, upon receiving water through the upper opening, produces a sound similar to the mewling of that animal. We have in our possession a vessel of black clay, which perfectly imitates the whistle of the thrush." A similar contrivance of the Indians in Chili, preserved in the Museum at Santiago, is described by the traveller S. S. Hill as follows:—"It consists of two earthen vessels in the form of our india-rubber bottles, but somewhat larger, with a flat tube from four to six inches in length, uniting their necks near the top and slightly curved upwards, and with a small hole on the upper side one third of the length of the tube from one side of the necks. To produce the sounds the bottles were filled with water and suspended to the bough of a tree, or to a beam, by a string attached to the middle of the curved tube, and then swung backwards and forwards in such a manner as to cause each end to be alternately the highest and lowest, so that the water might pass backwards and forwards from one bottle to the other through the tube between them. By this means soothing sounds were produced, which, it is said, were employed to lull to repose the drowsy chiefs who usually slept away the hottest hours of the day. In the meantime, as the bottles were porous, the water within them diminished by evaporation, and the sound died gradually away."

Again, the Indians in the southern district of Venezuela used to construct an earthen vessel with two sockets in which two tubes were inserted. By blowing through the tubes, they obtained sounds which Gumilla describes as exceedingly lugubrious and mournful.

As regards instruments of percussion, a kind of drum deserves special notice on account of the ingenuity evinced in its construction. The Mexicans called it *teponaztli*. They generally made it of a single block of very hard wood, somewhat oblong square in shape, which they hollowed, leaving at each end a solid piece about three or four inches in thickness, and at its upper side a kind of sound-board about a quarter of an inch in thickness. In this sound-board, if it may be called so, they made three incisions; namely, two running parallel some distance lengthwise of the drum, and a third running across from one of these to the other just in the centre. By this means they obtained two vibrating



tongues of wood, which when beaten with a stick, produced sounds as clearly defined as are those of our kettle drums. By making one of the tongues thinner than the other, they ensured two different sounds, the pitch of which they were enabled to regulate by shaving off more or less of the wood. The bottom of the drum they cut almost entirely open. The traveller, M. Nebel, was told by archæologists in Mexico that these instruments always contained the interval of a third, but on examining several specimens which he saw in Museums, he found some in which the two sounds stood towards each other in the relation of a fourth; while in others they constituted a fifth, in others a sixth, and in some even an octave. This is noteworthy inasmuch as it points to a conformity with our diatonic series of intervals, excepting the seventh.

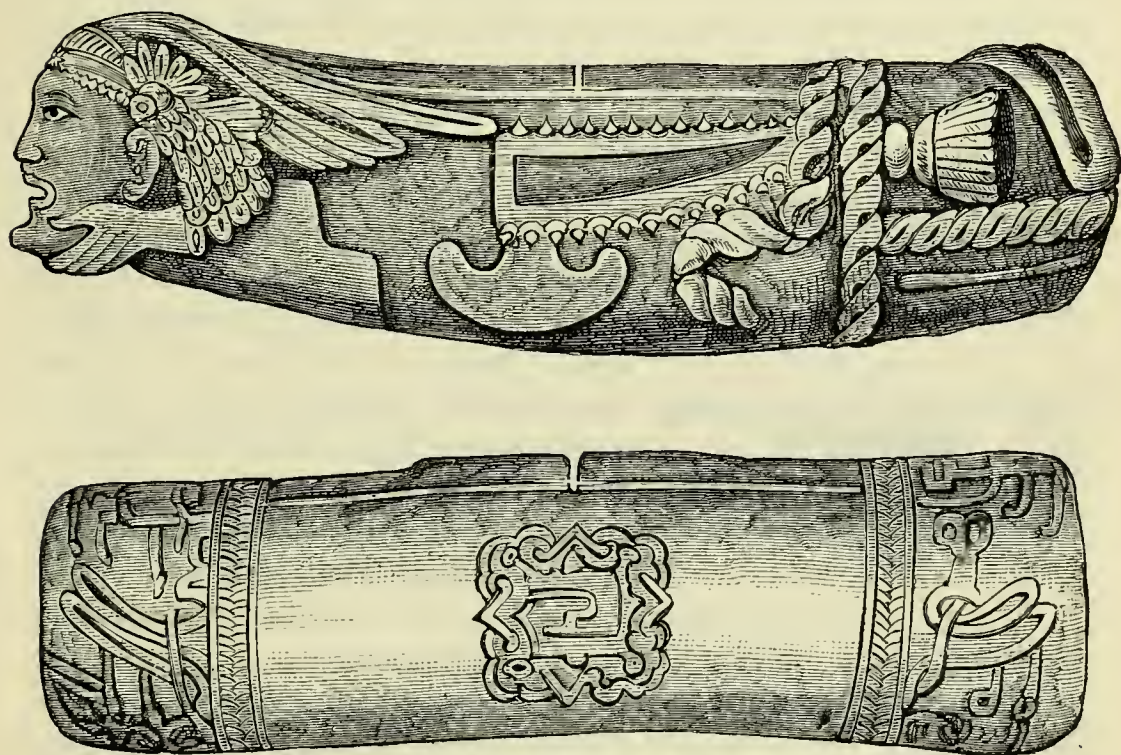


Fig. 65.—TEPONAZTLI OF THE AZTECS.

The *teponaztli* was generally carved with various fanciful and ingenious designs. It was beaten with two drumsticks covered at the end with an elastic gum, called *ule*, which was obtained from the milky juice extracted from the Mexican Ule-tree. Some of these drums were so small that they used to be carried on a string, or strap, suspended round the neck of the player; others, again, measured upwards of five feet in length, and their sound was so powerful that it could be heard at a distance of three miles. In some rare instances a specimen of the

*teponaztli* is still preserved by the Indians in Mexico, especially among tribes who have been comparatively but little affected by intercourse with their European aggressors. Herr Heller saw such an instrument in the hands of the Indians of Huatusco,—a village near Mirador in the Tierra templada or temperate region occupying the slopes of the Cordilleras. He says that the people regard it as a sacred object, and that they beat it only on certain days of the year; but that they could give him no reason for adhering to those days. Perhaps a reference to the exact times of the celebration of the Aztecs religious festivals, as recorded by Spanish writers, might afford some clue to this question. At all events, it is not improbable that the Indians should have preserved with the *teponaztli* some remains of the solemn ceremonies of their heathen ancestors in which this instrument was especially employed. Its sound is described as so very loud as to be distinctly audible at an incredibly great distance. This phenomenon, which has been noticed by several travellers, may perhaps be owing in some measure to the condition of the atmosphere in Mexico.

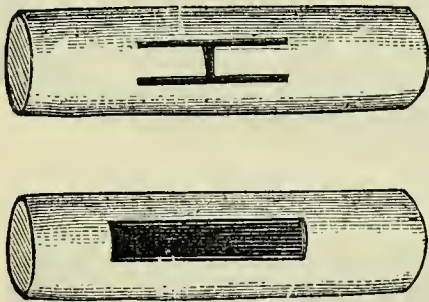


Fig. 66.—ANTIQUE DRUM FROM  
HISPANIOLA.

Instruments of percussion constructed on a principle more or less similar to the *teponaztli* were in use in several other parts of America, besides in Mexico. Oviedo ('*La Historia general de las Indias*;' Salamanca 1547) gives a drawing of a drum from San Domingo, which, as it shows distinctly both the upper and under side of the instrument, is here inserted. (Fig. 66.)

Valesco mentions among the works of art, or handicraft, which were observed with the Indians of Quito, a large drum made of a solid piece of wood, hollowed, and provided at the upper surface with two narrow openings of a curved figure. This instrument appears to have been nearly identical in construction with the large war-drum of the Indians in Northern Guiana, which, according to the drawing given in Gumilla's '*El Orinoco ilustrado*,' had three serpentine incisions, and must have yielded more than two different sounds, because the windings produce several small segments of wood each constituting a kind of vibrating tongue. This war-drum was of so enormous a size that it required to be hung on a beam which rested horizontally on two poles stuck into the ground. Thus suspended it was beaten with two drumsticks, not very different in appearance to those used in our military bands; but the drummer was almost hidden by the huge machine upon which he was labouring.



The largest kind of Mexican *teponaztli* appears to have been generally of a cylindrical shape. Clavigero ('*Storia antica del Messico*,' Cesena 1780) gives a drawing of such an instrument. Moreover, drums constructed of skin, or parchment, in combination with wood, were not unknown to the Indians. Of this description was, for instance the *huehuetl* of the Aztecs in Mexico, which consisted, according to Clavigero, of a wooden cylinder somewhat above three feet in height, curiously carved and painted, and covered at the top with carefully prepared deer-skin. And, what appears the most remarkable, the parchment, we are told, could be tightened or slackened by means of cords in nearly the same way as this is done on our own drum. The *huehuetl* was not beaten with drumsticks, but merely struck with the fingers, and much dexterity was required to strike it in the proper manner. Oviedo states that the Indians in Cuba had drums which were stretched with human skin. And Bernal Diaz relates that when he was with Cortés in Mexico, they ascended together the *Teocalli* ("House of God") a large temple in which human sacrifices were offered by the aborigines; and there the Spanish visitors saw a large drum which was made, Diaz tells us, with skins of great serpents. This "hellish instrument," as he calls it, produced, when struck, a doleful sound which was so awfully loud that it could be heard at a distance of two leagues. Clavigero, in his work on Mexico before noticed, has published an engraving of the *huehuetl*, which bears so remarkable a resemblance to certain European drums, that one might be inclined to regard it as unreliable if Clavigero's description of the instrument were not in every material point in accordance with it. Nevertheless, it is by no means improbable that the drawing was made from the description, and not from an actual instrument.

The name of the Peruvian drum was *huanca*. Moreover, the Peruvians had also an instrument of percussion, called *chhilchiles*, which appears to have been a sort of tambourine.

The rattle was likewise popular with the Indians before the discovery of America. The Mexicans called it *ajacaxtli*. In construction it was similar to the rattle at the present day commonly used by the Indians. It was oval or round in shape, and appears to have been usually made of a gourd into which holes were pierced, and to which a wooden handle was affixed. A number of little pebbles were enclosed in the hollowed gourd. However, the *ajacaxtli* also made of pottery. The little balls in the *ajacaxtli* of pottery, enclosed as they are, may at a first glance appear a puzzle. Probably when the rattle was being formed, they were attached to the inside as slightly as possible;



and after the clay had been baked, they were detached by means of an implement passed through the holes.

On certain occasions the chiefs, and other persons of rank and influence among the Aztecs, performed solemn and graceful dances. In preparation thereto they dressed themselves in splendid garments, adorning themselves with bracelets, earrings, and similar ornaments of gold and jewels, as well as with precious and beautiful feathers. And while they were dancing thus arrayed they held in one hand a shield and in the other the *ajacaxtli*, which they shook in rhythmical agreement with the singing to which they regulated their steps. One of these dances, called *tocotin*, which partook of a sacred character, is said to have retained its popularity for a considerable time even after the Spanish subjugation of the Indians.

The Tezcucans, (or Acolhuans) belonged to the same race as the Aztecs, whom, however, they surpassed in knowledge and social refinement. Nezahualcoyotl, a wise monarch of the Tezcucans, abhorred human sacrifices, and erected a large temple which he dedicated to "The Unknown God, the Cause of Causes." This edifice had a tower nine stories high, on the top of which were placed a number of musical instruments of various kinds, which were used to summon the worshippers to prayer. Respecting these instruments, especial mention is made of a sonorous metal which was struck with a mallet. This is stated in a historical essay written by Ixtlilxochitl, a native of Mexico and of royal descent, who lived in the beginning of the seventeenth century, and who may be supposed to have been familiar with the musical practices of his countrymen. But whether the sonorous metal alluded to was a gong or a bell, is not clear from the vague record transmitted to us. That the bell was known to the Peruvians appears to be no longer doubtful, since a small specimen has been found in one of the old Peruvian tombs. This interesting relic is now deposited in the museum at Lima. M. de Castelnau has published a drawing of it, which is here reproduced (Fig. 67). This little bell is of copper. The Peruvians called their bells *chanreres*; but it remains questionable whether this name did not designate rather the so-called horse bells, which were certainly known to the Mexicans, who called them *yotl*. It is noteworthy that these *yotl* are found figured in the picture-writings representing the various objects which the Aztecs used to pay as tribute to their sovereigns. The collection of Mexican antiquities in the British Museum contains a cluster of *yotl*-bells (Fig. 69), which are different in shape from those just noticed. Being nearly round, they closely resemble the *Schellen* which the Germans are in the habit of

affixing to their horses, particularly in the winter when they are driving their noiseless sledges.

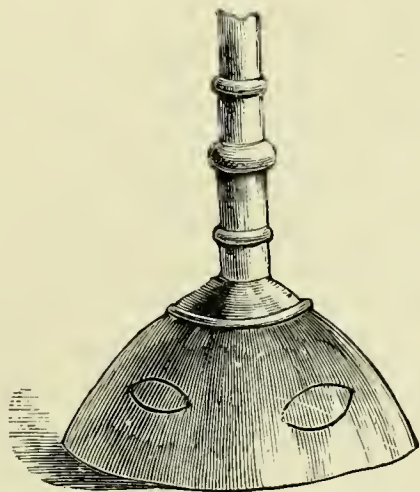


Fig. 67.—ANTIQUÉ BELL OF THE INCA PERUVIANS.

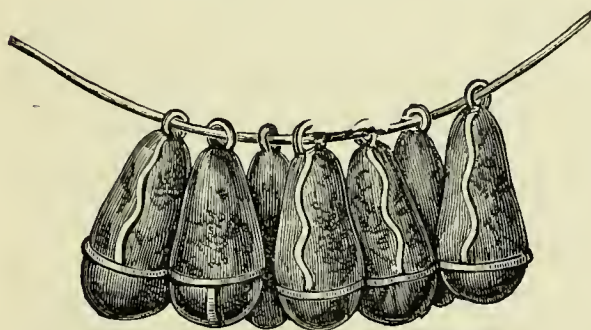


Fig. 68.—YOTL OF THE AZTECS.

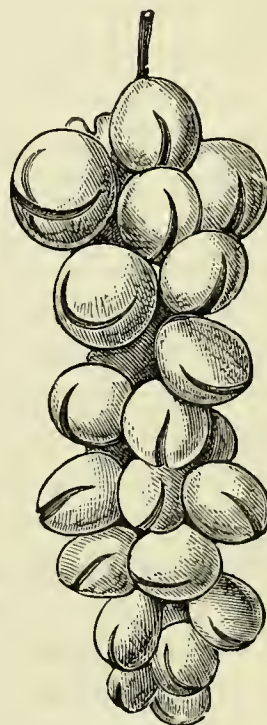


Fig. 69.—A CLUSTER OF SMALL BELLS OF THE AZTECS.

Again, in South America, sonorous stones are not unknown, and were used in olden time for musical purposes. The traveller G. T. Vigne saw among the Indian antiquities preserved in the town of Cuzco, in Peru “a musical instrument of green sonorous stone, about a foot long, and an inch and a half wide, flat-sided, pointed at both ends, and arched at the back, where it was about a quarter of an inch thick, whence it diminished to an edge, like the blade of a knife . . . . In the middle of the back was a small hole, through which a piece of string was passed; and when suspended and struck by any hard substance, a singularly musical note was produced.” Humboldt mentions the Amazon-stone, which, on being struck by a hard substance yields a metallic sound. It was formerly cut by the American Indians

into very thin plates, perforated in the centre, and suspended by a string. These plates were remarkably sonorous. However, the stone is not, as might be conjectured from its name, found exclusively near the Amazon River. The name was given to it as well as to the river by the first European visitors to America, in allusion to the female warriors, respecting whom strange stories are told. The natives pretending, according to an ancient tradition, that the stone came from the country of "Women without husbands," or "Women living alone." The Amazon-stone, according to Humboldt, appears to have belonged to the sacred stones to which the Indians offered divine worship.

As regards the ancient stringed instruments of the American Indians, our information is indeed but scanty. Clavigero says that the Mexicans were entirely unacquainted with stringed instruments,—a statement, the correctness of which is questionable, considering the stage of civilization to which these people had attained. At any rate, we generally find one or other kind of such instruments with nations whose intellectual progress and social condition are decidedly inferior. The Aztecs had many claims to the character of a civilized community. Moreover, the Tezcucans were even more advanced in the cultivation of the arts and sciences than the Aztecs. "The best histories," Prescott observes, "the best poems, the best code of laws, the purest dialect, were all allowed to be Tezcucan. The Aztecs rivalled their neighbours in splendour of living, and even in the magnificence of their structures. They displayed a pomp and ostentatious pageantry, truly Asiatic." Unfortunately historians are sometimes not sufficiently discerning in their communications respecting musical questions. J. Ranking, in describing the grandeur of the establishment maintained by Montezuma, says that during the repasts of this monarch "there was music of fiddle, flute, snail-shell, a kettle-drum, and other strange instruments." But as this writer does not indicate the source whence he drew his information respecting Montezuma's orchestra including the fiddle, the statement deserves scarcely a passing notice. There are, in fact, no reliable indications that the Indians were acquainted with any instrument played with the bow, and if Montezuma had actually some kind of violin in his royal band, he much more likely obtained it from the Spaniards than from his ancestors.

The Peruvians possessed a stringed instrument, called *tinya*, which was provided with five or seven strings. To conjecture from the unsatisfactory account of it transmitted to us, the *tinya* appears to have been a kind of guitar. Considering the fragility of the materials of which such instruments are generally constructed, it is perhaps not surprising



that we do not meet with any specimens of them in the Museums of American antiquities.

A few remarks will not be out of place here referring to the musical performances of the ancient Indians ; since an acquaintance with the nature of the performances is likely to afford additional assistance in appreciating the characteristics of the instruments.

In Peru, where the military system was carefully organised, each division of the army had its trumpeters, called *cqueppacamayo*, and its drummers, called *huancarcamayo*. Whenever the Inca, or monarch, returned with his troops victorious from battle, his first act was to repair to the temple of the Sun, in order to offer up thanksgiving ; and, after the conclusion of this solemn ceremony, the people celebrated the glorious event with festivities, of which music and dancing constituted a principal part. Indeed, musical performances appear to have been considered indispensable on occasions of public celebrations. Frequent mention is made of them by historians who have described the festivals annually observed by the Peruvians ; as, for instance, the *Raymi*, a great festival in honour of the Sun, which was held in the summer solstice, and which constituted the principal religious public solemnity. Likewise, the *Situa*, a festival celebrated at the autumnal equinox, in which, as in the *Raymi*, the musical entertainments and public rejoicings were preceded by a general fast. The words *raymi* and *asitua* signify “solemn dance” and “great dance” ; and from the frequency of their occurrence in connection with the names of the months, it would appear that music and dancing must have constituted the favourite pastimes of the Peruvians all the year round. Moreover, this impression is supported by historical records.

About the month of October the Peruvians celebrated a solemn feast in honour of the dead, on which occasion they executed lugubrious songs and plaintive instrumental music. Compositions of a similar character were performed on occasion of the decease of a monarch. As soon as it was made known to the people that their Inca had been “called home to the mansions of his father the Sun,” they prepared to celebrate his obsequies with becoming solemnity. Prescott, in his graphic description of these observances, says : “At stated intervals, for a year, the people assembled to renew the expressions of their sorrow ; processions were made displaying the banner of the departed monarch ; bards and minstrels were appointed to chronicle his achievements, and their songs continued to be rehearsed at high festivals in the presence of the reigning monarch,—thus stimulating the living by the glorious example of the dead.” The Peruvians had also par-

ticular agricultural songs, which they were in the habit of singing while engaged in tilling the lands of the Inca. To cultivate the fields of the monarch was a duty which devolved upon the whole nation. The subject of these songs, or rather hymns, referred especially to the noble deeds and glorious achievements of the Inca and his dynasty. While thus singing, the labourers regulated their work to the rhythm of the music, thereby ensuring a pleasant excitement and a stimulant in their occupation, like soldiers regulating their steps to the music of the military band. These hymns pleased the Spanish invaders so greatly that they not only adopted several of them, but also composed some in a similar form and style. This appears, however, to have been the case rather with the poetry than with the music.

The name of the Peruvian elegiac songs was *haravi*. Some tunes of these songs, pronounced to be genuine specimens, have been published in recent works; but their genuineness appears questionable. At all events they must have been much tampered with, as they exhibit exactly the form of the Spanish *bolero*. Even allowing that the melodies of these compositions have been derived from Peruvian *harivaris*, it is impossible to determine with any degree of certainty how much in them has been retained of the original tunes, and how much has been supplied besides the harmony, which is entirely an addition of the European arranger. The Peruvians had minstrels, called *haravecs* (*i.e.*, “inventors”), whose occupation it was to compose and to recite the *haravis*. Besides these minstrels, or bards, they had a class of poets, called *amautas* (*i.e.*, “wise men”), to whom was principally confided the office of recording the national annals, and who composed dramatic works as well as festive songs.

Acosta (‘*Historia natural y moral de las Indias*’; Sevilla, 1590), mentions as the most popular dances of the American Indians, the *taqui*, the *areytos*, and the *mitotes*. The *taqui* was a Peruvian dance, and appears to be the same which is called by some historians *cachua*. This dance, which is still performed by the Indians in Peru, is of a lively character, and contains various figures requiring great agility and dexterity. The *areytos* were dances as well as songs of the aborigines of San Domingo and other West Indian islands. According to Oviedo they somewhat resembled the rural dances of Spain. They sometimes partook of a sacred character; but more usually the subject treated in them referred to historical events, or to love, or to warlike pursuits. The *mitotes*, which were the favourite dances of the Mexicans, are described as having consisted chiefly of solemn and graceful figures; however, if reliance may be placed on the illustrations published in the

English translation of Herrera's historical work (London, 1725), there must have been some *mitotes* in which solemnity and gracefulness were cast aside ; for we see one dancer standing on the shoulders of another, and such like uncouth excentricities. Mexicans of rank maintained professional dancers for their private entertainment. The royal dancers retained at the court of Montezuma must have been very numerous, since it is recorded that they occupied a particular district of the capital which was appropriated to them exclusively. In certain dances the performers wore masks representing the heads of animals.

The Mexicans possessed a class of songs which served as a record of historical events. Furthermore they had war-songs, love-songs, and other secular vocal compositions, as well as sacred chants, in the practice of which boys were instructed by the priests in order that they might assist in the musical performances of the temple. It appertained to the office of the priests to burn incense, and to perform music in the temple at stated times of the day. The commencement of the religious observances, which took place regularly at sunrise, at mid-day, at sunset, and at midnight, was announced by signals blown on trumpets and pipes. Persons of high position retained in their service professional musicians, whose duty it was to compose ballads, and to perform vocal music with instrumental accompaniment. Moreover, the nobles themselves,—nay, even the monarch, not unfrequently delighted in composing ballads and odes.

Especially noticeable is the institution termed 'Council of Music,' which the wise monarch Nezahualcoyotl founded in Tezcuco. This institution was not intended exclusively for promoting the cultivation of music ; its aim comprised the advancement of various arts, and of sciences such as history, astronomy, etc. In fact, it was an academy for general education. Probably no better evidence could be cited testifying to the remarkable intellectual attainments of the Mexican Indians before the discovery of America, than this Council of Music. Although in some respects it appears to have resembled the 'Board of Music' of the Chinese, it was planned on a more enlightened and more comprehensive principle. The Chinese 'Board of Music,' called *Yo Poo*, is an office connected with the *Lé Poo*, or 'Board of Rites,' established by the Imperial government at Peking. The principal object of the Board of Rites is to control the ritual observances of the celestial empire. These observances are divided into five classes relating to the ceremonies to be performed on occasions of sacrifices offered to the gods ; of festivals and certain court solemnities ; of military reviews ; of presentations, congratulations, marriages, deaths,



burials,—in short, concerning almost every possible event in social and public life. How narrow a spirit does this Imperial guardianship over prescribed form and etiquette evince, if compared with the love for intellectual progress which animated the Tezcucan monarch in establishing his Council of Music.

The reader is probably aware that in one of the various hypotheses which have been advanced respecting the Asiatic origin of the American Indians, China is assigned to them as their ancient home. Some historians surmise them to be emigrants from Mongolia, Thibet, or Hindustan; others maintain that they are the offspring of Phœnician colonists who settled in Central America. Even more curious are the arguments of certain inquirers who have no doubt whatever that the ancestors of the American Indians were the lost ten tribes of Israel, of which since about the time of the Babylonian captivity history is silent. Whatever may be thought as to which particular one of these speculations hits the truth, they certainly have all proved useful in so far as they have made ethnologists more exactly acquainted with the habits and predilections of the American aborigines than would otherwise have been the case. For, as the advocates of each hypothesis have carefully collected and adduced every evidence they were able to obtain tending to support their views, the result is that, so to say, no stone has been left unturned. Nevertheless, any such hints as suggest themselves from an examination of musical instruments have hitherto remained unheeded. It may therefore perhaps interest the reader to have his attention drawn to a few suggestive similarities occurring between instruments of the American Indians and of certain nations inhabiting the Eastern hemisphere.

We have seen that the Mexican pipe and the Peruvian syrinx were purposely constructed so as to produce the intervals of the pentatonic scale only. Moreover, there are some additional indications of this scale having been in use with the American Indians. For instance, the music of the Peruvian dance *cachua* is described by Rivero and Tschudi as having been very similar to some Scotch national dances; and the most conspicuous characteristics of the Scotch tunes are occasioned by the frequently exclusive employment of intervals appertaining to the pentatonic scale. Precisely the same series of intervals we find adopted on certain Chinese instruments, and indications are not wanting of the pentatonic scale having been popular among various races in Asia at a remote period. The series of intervals appertaining to the Chiriqui pipe, mentioned page 66, consisted of a semitone and two whole tones, like the *tetrachord* of the ancient Greeks.

In the Peruvian *huayra-puhura* made of talc, some of the pipes possess lateral holes. This contrivance, which is rather unusual, occurs on the Chinese *cheng*.

The *chayna*, mentioned page 69, seems to have been provided with a reed, like the oboe. In Hindustan we find a species of oboe called *shehna*. The *turé* of the Indian tribes on the river Amazon, mentioned page 73, reminds us of the trumpets *tooree*, or *tootooree*, of the Hindus. The name appears to have been known also to the Arabs; but there is no indication whatever of its having been transmitted to the Peninsula by the Moors, and afterwards to South America by the Portuguese and Spaniards.

The wooden tongues in the drum *teponaztli* may be considered as a contrivance exclusively of the ancient American Indians. Nevertheless a construction nearly akin to it may be observed in certain drums of the Tonga Islanders, of the Feejee Islanders, and of the natives of some islands in Torres Strait. Likewise some negro tribes in Western and Central Africa have certain instruments of percussion which are constructed on a principle somewhat reminding us of the *teponaztli*.

The method of bracing the drum by means of cords, as exhibited in the *huehuetl* of the Mexican Indians, is evidently of very high antiquity in the East. It was known to the ancient Egyptians.

Rattles, Pandean pipes made of reed, and Conch trumpets, are found almost all over the world, wherever the materials of which they are constructed are easily obtainable. Still, it may be noteworthy that the Mexicans employed the Conch trumpet in their religious observances apparently in much the same way as it is made use of in the Buddhist worship of the Thibetans and Kalmuks.

As regards the sonorous metal in the great temple at Tezcuco, certain inquirers are sure that it was a gong. But it must be borne in mind that these inquirers detect everywhere traces proving an invasion of the Mongols, which they maintain to have happened about six hundred years ago. Had they been acquainted with the little Peruvian bell, Fig. 67, they would have had more tangible musical evidence in support of their theory than the supposed gong; for this bell certainly bears a suggestive resemblance to the little hand-bell which the Buddhists in Central Asia use in their religious ceremonies.

The Peruvians interpolated certain songs of theirs, especially those which they were in the habit of singing while cultivating the fields of the Inca, with the word *hailli*, which signified "Triumph." As the subject of these compositions was principally the glorification of the Inca, the burden *hailli* is perhaps all the more likely to remind Euro-

peans of the Hebrew *hallelujah*. Moreover, Adair, who lived among the Indians of North America during a period of about forty years, mentions some other words which he found used as burdens in hymns sung on solemn occasions, and which appeared to him to correspond with certain Hebrew words of a sacred import.

As regards the musical accomplishments of the Indian tribes at the present day, they are far below the standard which we have found among the ancestors of these people. A period of three hundred years of oppression has evidently had the effect of subduing the melodious expressions of happiness and contentedness which in former times appear to have been quite as prevalent with the Indians as they generally are with independent and flourishing nations. The innate talent for music evinced by those of the North American Indians who were converted to Christianity soon after the emigration of the Puritans to New England, is very favourably commented on by some old writers. In the year 1661 John Elliot, a clergyman whom in the history of American church music we find named "The Apostle of the Indians," published a translation of the Psalms into Indian verse, made by him, and entitled *Wame Ketohomae Uketoohomaongash David*. The singing of these metrical Psalms by the Indian converts in their places of worship appears to have been actually superior to the sacred vocal performances of their Christian brethren from Europe; for, in the historical records we find it described by several witnesses as "excellent" and "most ravishing."

In other parts of America the Roman Catholic priests from Spain did not neglect to turn to account the susceptibility of the Indians for music. Thus, in Central America the Dominicans composed as early as in the middle of the sixteenth century a sacred poem in the Guatemalian dialect, containing a narrative of the most important events recorded in the Bible. This production they sang to the natives, and to enhance the effect, they accompanied the singing with musical instruments. The alluring music soon captivated the heart of a powerful and fierce Cazique, who was thus induced to adopt the doctrines embodied in the composition, and to diffuse them among his subjects, who likewise delighted in the performances. In Peru a similar experiment, resorted to by the priests who accompanied Pizarro's expedition, proved equally successful. They dramatized certain scenes in the life of Christ, and represented them with music, which so greatly fascinated the idolatrous Indians that many of them readily embraced the new faith. Nor are these entertainments dispensed with even at the present day by the Indian Christians, especially in the village churches



of the Sierra in Peru; and as several religious ceremonies have been retained by these people from their heathen forefathers, it may be surmised that their sacred musical performances also retain much of their ancient heathen character.

Most of the musical instruments found among the American Indians at the present day, are evidently genuine old Indian contrivances as they existed long before the discovery of America. Take, for instance, the peculiarly shaped rattles, drums, flutes, and whistles of the North American Indians, of which some specimens deposited in the Museum are described in the Catalogue. A few African instruments, introduced by the Negro slaves, are now occasionally found in the hands of the Indians, and have been, by some travellers, erroneously described as genuine Indian inventions. This is, for instance, the case with the African *marimba*, which has become rather popular with the natives of Guatemala, Central America; but such adaptations are easily discernible.

#### MUSICAL INSTRUMENTS OF EUROPEAN NATIONS DURING THE MIDDLE AGES.

Many representations of musical instruments of the middle ages have been preserved in old manuscripts, as well as in sculptures and paintings forming ornamental portions of churches and similar edifices. Valuable facts and hints are obtainable from these evidences, provided they are judiciously selected and carefully examined. The subject is, however, so vast that only a few observations on the most interesting instruments can be offered here.

Unfortunately there still prevails much uncertainty respecting several of the earliest representations as to the precise century from which they date, and there is reason to surmise that in some instances the archaeological zeal of musical investigators has assigned a higher antiquity to such discoveries than can be satisfactorily proved.

Thus much appears certain, the most ancient European instruments known to us were in form and construction more like those of Asiatic nations than was the case with later ones. Before a nation has attained to a rather high degree of civilization, its progress in the cultivation of music, as an art, is very slow indeed. The instruments found at the present day in Asia are scarcely superior to those which were in use

among Oriental nations about three thousand years ago. It is, therefore, perhaps not surprising that no material improvement is perceptible in the construction of the instruments of European countries during the lapse of nearly a thousand years. True, reliable evidences referring to the first five or six centuries of the Christian era, are indeed but scanty; indications are, however, not wanting which may help the reflecting musician.

There are some early monuments of Christian art dating from the fourth century in which the lyre is represented. In one of them Christ is depicted as Apollo touching the lyre. This instrument occurs at an early period in Western Europe used in popular pastimes. In an Anglo-Saxon manuscript of the ninth century, in the British Museum (Cleopatra C. VIII.) are the figures of two gleemen, one playing the lyre and the other a double-pipe. An illustration of these performers in concert is given in Strutt's 'Sports and Pastimes of the People of England.' M. de Couffemaker has published in the 'Annales Archéologiques', Paris 1845, the figure of a crowned personage playing the lyre, which he found in a manuscript of the ninth or tenth century, in the library at Angers. The player twangs the strings with his fingers, while the Anglo-Saxon gleeman before mentioned uses a plectrum.

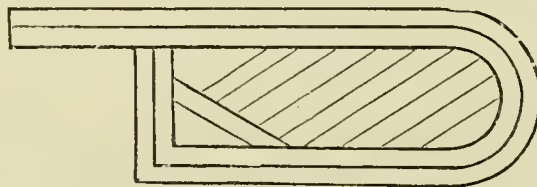


Fig. 70.—CITHARA. IX<sup>th</sup> Century.

*Cithara* was a name applied to several stringed instruments greatly varying in form, power of sound, and compass. The illustration, Fig. 70, represents a cithara like those copied by the Abbot Martinus Gerbert from a manuscript of the ninth century. The manuscript was formerly in the library of the monastery of St. Blasius in the Black Forest, in Germany. When in the year 1768 the monastery of St. Blasius was destroyed by fire, this valuable book perished in the flames; fortunately, however, the Abbot Gerbert possessed tracings of the illustrations, which were saved from destruction. He published them, in the year 1774, in his work 'De Cantu et Musica sacra.' Several illustrations in the following pages, it will be seen, have been derived from this interesting source. As the older works on music were generally written in Latin, we do not learn from them the popular

names of the instruments ; the writers merely adopted such Latin names as they thought the most appropriate. Thus, for instance, a very simple stringed instrument of a triangular shape (Fig. 71), and a somewhat similar one of a square shape (Fig. 72), were both designated by the name of *psalterium*.

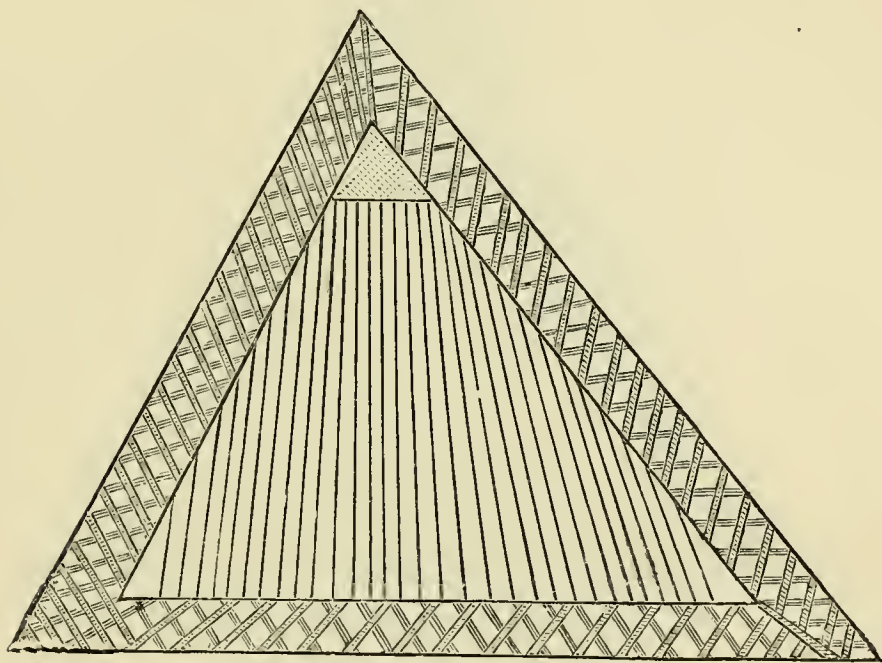


Fig. 71.—TRIANGULAR PSALTERIUM. IX<sup>th</sup> Century. (St. Blasius.)

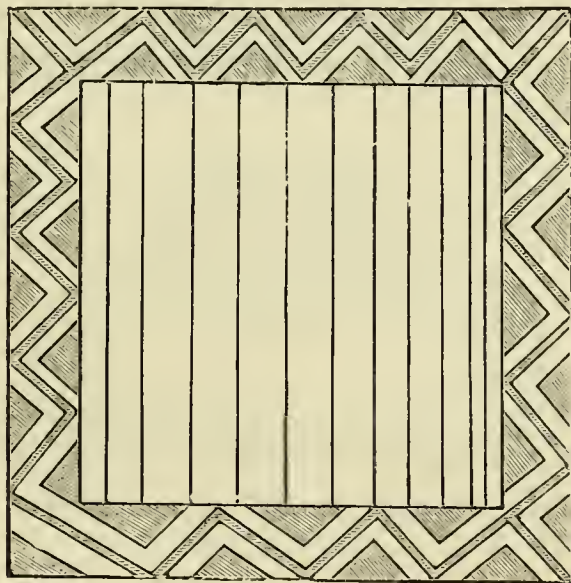


Fig. 72.—SQUARE PSALTERIUM. IX<sup>th</sup> Century. (St. Blasius.)



Again, a stringed instrument much resembling the triangular psalterium we find called *cithara* (Fig. 73).

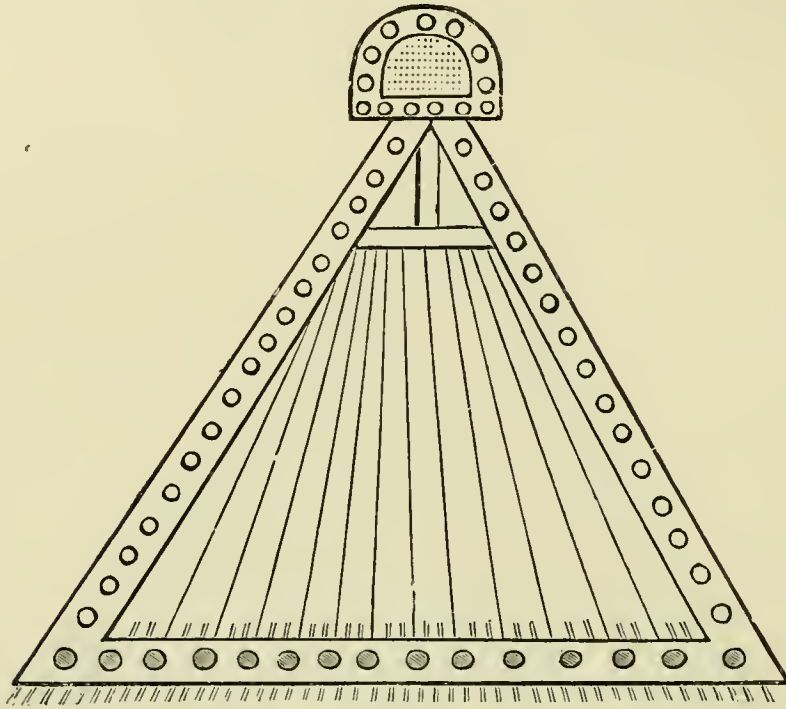


Fig. 73.—CITHARA. IX<sup>th</sup> Century. (St. Blasius.)

This instrument is evidently an improvement upon the psalterium, in so far as it has a sort of sound-board at the top. Scarcely better, with regard to acoustics, appears to have been the instrument designated as *nablum* (Fig. 74), which is depicted in a manuscript of the ninth century at Angers.

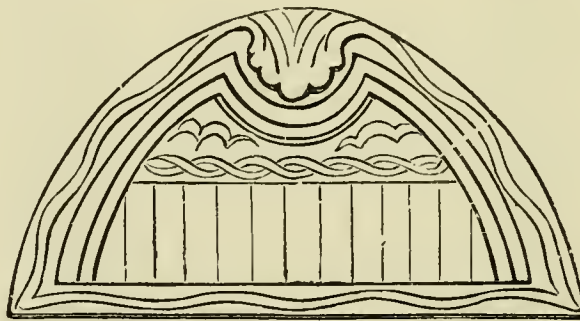


Fig. 74.—NABLUM. IX<sup>th</sup> Century. (Angers.)

A small psalterium with strings placed over a sound-board (Fig. 75), was apparently the prototype of the *citole*,—a kind of dulcimer which

was played with the fingers. The names were not only often vaguely applied by the mediæval writers, but they changed also in almost every century. The psalterium, or psalterion (Italian *salterio*, English *psaltery*), of the fourteenth century and later, had the trapezium shape of the dulcimer.

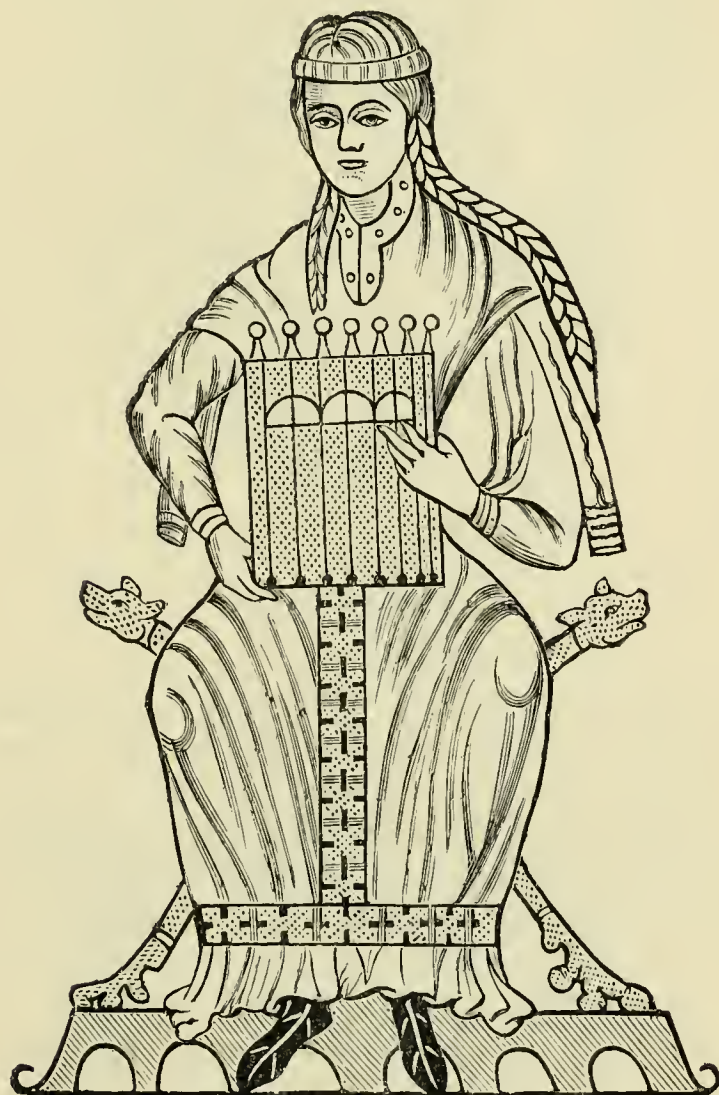


Fig. 75.—A SPECIES OF CITOLE. IX<sup>th</sup> Century. (St. Blasius.)

The Anglo-Saxons frequently accompanied their vocal effusions with a harp, more or less triangular in shape,—an instrument which may be considered rather as constituting the transition of the lyre into the harp. A very similar instrument was known to the ancient Eastern nations long before the Christian era.

The representation of King David playing the harp (Fig. 76) is from an Anglo-Saxon manuscript of the beginning of the eleventh



Fig. 76.—ANGLO-SAXON HARP. XI<sup>th</sup> Century.

century, in the British Museum. The harp was especially popular in central and northern Europe. It was the favourite instrument of the German and Celtic Bards, and of the Scandinavian Skalds. In the illustration from the manuscript of the monastery of St. Blasius (Fig. 77), twelve strings and two sound holes are given to it. A harp similar in form and size, but without the front pillar, was known to the ancient Egyptians. Perhaps the addition was also non-existent in the earliest specimens appertaining to European nations. At any rate, a sculptured figure of a small harp constructed like the harps of the ancient Eastern nations has been discovered in the old church of Ullard in the county of Kilkenny in Ireland. Of this curious relic, which is said to date from a period anterior to the year A.D. 800, a fac-simile, taken from Bunting's 'Ancient Music of Ireland,' is here given (Fig. 78). As Bunting was the first who drew attention to this sculpture, his account of it may interest the reader. "The drawing," he says, "is taken from one of the ornamental compartments of a sculptured cross, at the old church of Ullard. From the style of the workmanship, as well as from the worn condition of the cross, it seems older than the similar monument at Monasterboice, which is known to have been set up before the year 830. The sculpture is rude; the circular rim which binds



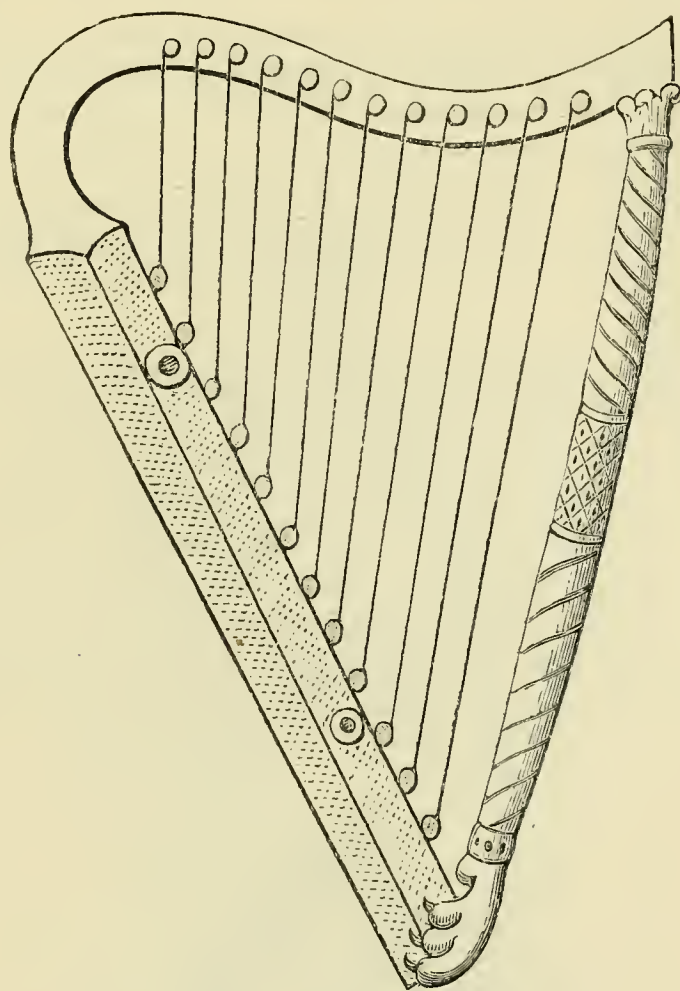


Fig. 77.—HARP. IX<sup>th</sup> Century. (St. Blaius.)

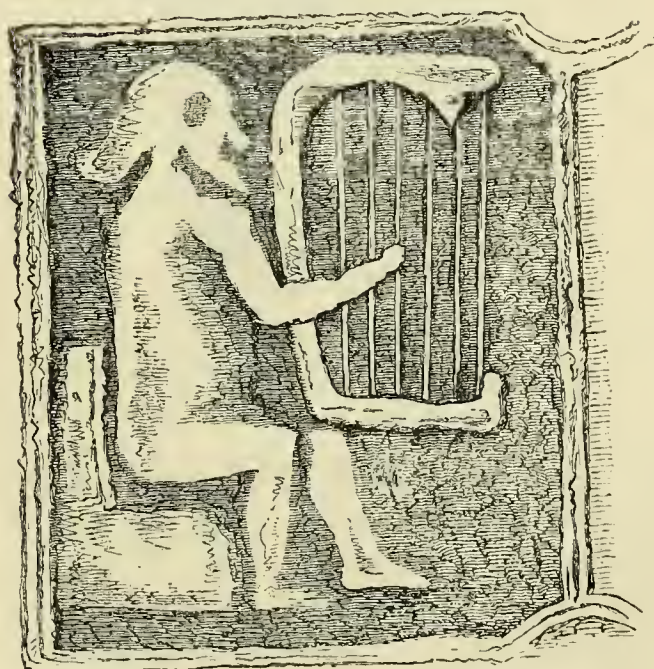


Fig. 78.—EARLY IRISH HARP.

the arms of the cross together is not pierced in the quadrants, and many of the figures originally in relief are now wholly abraded. It is difficult to determine whether the number of strings represented is six or seven; but, as has been already remarked, accuracy in this respect cannot be expected either in sculptures or in many picturesque drawings." Moreover, the Finns had a harp (*harpu*, *kantele*) with a similar frame, devoid of a front pillar, until the commencement of the present century.

One of the most interesting stringed instruments of the Middle Ages is the *rotta* (German, *rotte*; English, *rote*). It was sounded by twanging the strings, and also by the application of the bow. The first method was, of course, the older one. There can hardly be a doubt that, when the bow came into use, it was applied to certain popular instruments which previously had been treated like the *cithara* or the *psalterium*. The Hindus at the present day use their *suroda* sometimes as a lute and sometimes as a fiddle. We do, in some measure, the same with the violin by playing occasionally *pizzicato*. The *rotta*

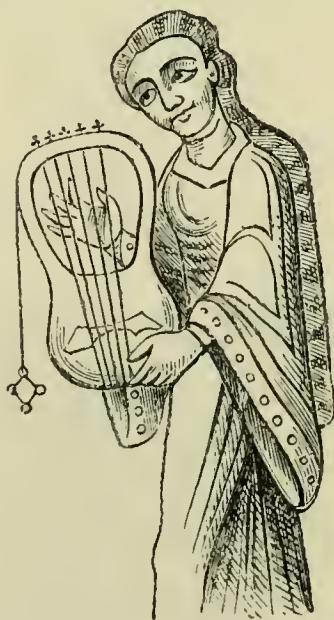


Fig. 79.—GERMAN ROTTE. IX<sup>th</sup> Century. (St. Blasius.)

depicted in the manuscript of the monastery of St. Blasius is called in Abbot Gerbert's work *cithara teutonica*, while the harp is called *cithara anglica*; from which it would appear that the former was regarded as pre-eminently a German instrument. Possibly its name may have been originally *chrotta*, and the continental nations may have adopted it from the Celtic races of the British Isles, dropping the guttural sound.

This hypothesis is, however, one of those which have been advanced by some musical historians without any satisfactory evidence.



Fig. 80.—ROTTA. VII<sup>th</sup> Century. (British Museum.)

The representation of King David playing on the *rotta* (Fig. 80), is from a Psalter of the seventh century in the British Museum (Cott. MSS. Vesp. A. I). According to tradition, this Psalter is one of the manuscripts which were sent by Pope Gregory to St. Augustine. The instrument much resembles the lyre in the hand of the musician, Fig. 22, who is supposed to be a Hebrew of the time of Joseph. In the *rotta* the ancient Asiatic lyre is easily recognizable. An illumination of the Royal Psalmist playing the *rotta* forms the frontispiece of a MS. volume of the eighth century preserved in the Cathedral Library of Durham. This manuscript, which contains the Commentaries of the Psalms by Cassiodorus, was written, according to tradition, by the Venerable Bede. However this may be, the illumination is musically interesting inasmuch as it represents a *rotta* of an oblong square shape like that just noticed,



and resembling the Welsh *crwth*. It has only five strings, which the performer twangs with his fingers. Again, a very interesting representation of King David with a kind of *rotta* occurs in a MS. Psalter of the tenth century, in the British Museum (Vitellius F. XI.). The manuscript has been much injured by a fire in the year 1731. Nevertheless, Mr. J. O. Westwood has succeeded, with great care, and with the aid of a magnifying glass, in making out the lines of the figure. As it has been ascertained that the Psalter is written in the Irish semiuncial character (see 'The Archæological Journal of the Archæological Institution of Great Britain and Ireland,' London, 1850), it is highly probable that the kind of *rotta* (Fig. 81), represents the Irish *cionar cruit*,

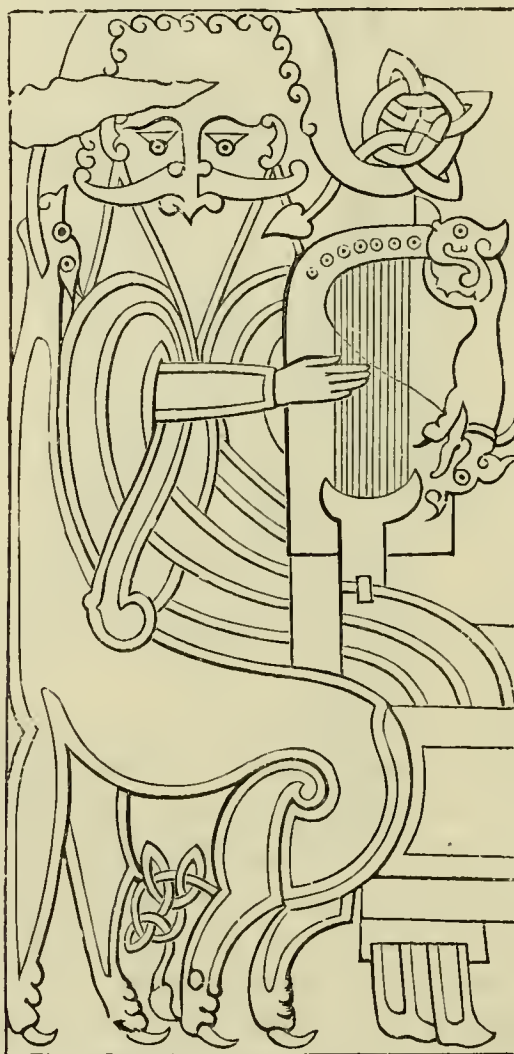


Fig. 81.—AN IRISH ROTTÀ. X<sup>th</sup> Century. (British Museum.)

which was played by twanging the strings, and also by the application of a bow. Unfortunately we possess no well-authenticated representa-

tion of the Welsh *crwth* of an early period ; otherwise we should in all probability find it played with the fingers, or with a plectrum. Venantius Fortunatus, an Italian who lived in the second half of the sixth century, mentions in a poem the “ Chrotta Britanna.” He does not, however, allude to the bow, and there is no reason to suppose that it existed in England. Howbeit, the Welsh *crwth* (Anglo-Saxon, *crudh* ; English, *crowd*), is only known as a species of fiddle, closely resembling the *rotta*, but having a fingerboard in the middle of the open frame, and being strung with only a few strings ; while the *rotta* had sometimes above twenty strings. It may interest the reader to examine the form of the *crwth*, Fig. 137. Edward Jones, in his ‘Musical and Poetical Relicks of the Welsh Bards,’ records that the Welsh had before this kind of *crwth* a three-stringed one called ‘Crwth Trithant,’ which was, he says, “ a sort of violin, or more properly a rebeck.” This three-stringed *crwth* was chiefly used by the inferior class of bards. It probably was the Moorish fiddle which is still the favourite instrument of the itinerant bards of the Bretons in France, who call it *rébek*. The Bretons, it will be remembered, are close kinsmen of the Welsh.

A player on the *crwth*, or *crowd* (a crowder) from a bas-relief on the under part of the seats of the choir in Worcester Cathedral (Fig. 82),



Fig. 82.—CROWD. ENGLISH. About the XIII<sup>th</sup> Century.

dates from the twelfth or thirteenth century. M. de Couffemaker, in ‘Annales Archéologiques,’ Tome III., has published an engraving of a player on a *chrotta*, or a *crout* as he calls the instrument, which he copied from a manuscript in the Bibliothèque Royale at Paris, and which

he pronounces to be of the eleventh century (Fig. 83). The player wears a crown on his head. In the original illustration some musicians



Fig. 83.—FRENCH CROUT. XI<sup>th</sup> Century. (Paris.)

placed at his side are performing on the psalterium and other instruments. They are figured with uncovered heads; whence M. de Couffemaker concludes that the *croust* was considered by the artist who drew the figures as the noblest instrument of those represented. It was probably identical with the *rotta* of the same century on the continent. In an annotation to Allain de Lille's 'De Planctu Naturæ,' a manuscript of the thirteenth century, it is stated that the *vioel*, or *fitola*, was formerly called *de roet*, and that it was a very popular instrument. Again, in a vocabulary of the year 1419, noticed by Ferdinand Wolf in his work 'Ueber die Lais, Sequenzen und Leiche,' Heidelberg, 1841, the *rott* is described as a *figella* [viol], and is mentioned together with the *rebula* [rebec].



An interesting drawing of an Anglo-Saxon fiddle,—or *fithle*, as it was called,—is given in a manuscript of the eleventh century preserved in the British Museum (Cotton MSS., Tiberius, c. VI). The instrument is of a pear shape. It has four strings. The bridge is not indicated (Fig. 84). A German fiddle of the ninth century, copied by Abbot Gerbert from the manuscript of St. Blasius, has only one string (Fig. 85). It is called *lyra*. Almost precisely the same instrument,



Fig. 84.—ANGLO-SAXON FIDDLE.  
XI<sup>th</sup> Century. (British Museum.)

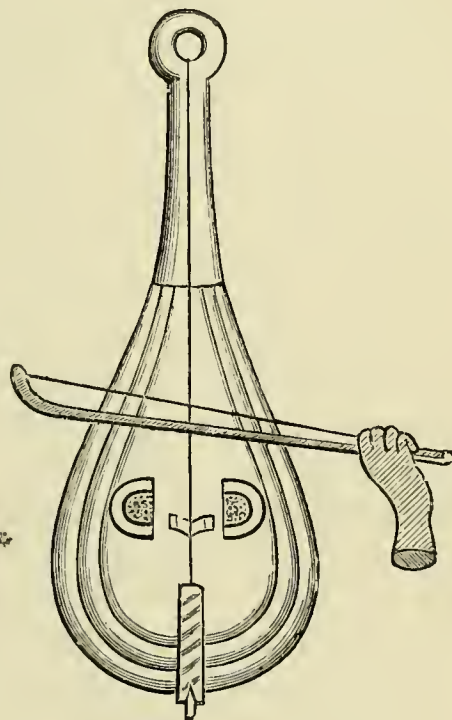


Fig. 85.—GERMAN FIDDLE.  
IX<sup>th</sup> Century. (St. Blasius.)

provided with only one string, is represented in an Anglo-Saxon Psalter of the eleventh century, in the British Museum. Literal records of the employment of the fiddle-bow in Germany in the twelfth and thirteenth centuries are not wanting. For instance, in the famous ‘*Nibelungenlied*,’ Volker, the bold warrior and gentle minstrel, is described as wielding the fiddle-bow not less dexterously than the sword. And in ‘*Chronicon picturatum Brunswicense*’ of the year 1203, the following “*Wunderteecken*” (miraculous sign) is recorded as having occurred in the village of Offemer near Stendal: “On Wednesday in Whitsun-week, while the parson was fiddling to his peasants who were dancing, there came a flash of lightning and struck the parson’s arm which held the fiddle-bow, and killed XXIV people on the spot.” (The German record is as follows: “In duffem Jare geschah ein Wunderteecken by Stendal

in dem Dorppe gehrten Offemer, dar fat de Parner des Midweckens in den Pingxsten und veddelte fynen Buren to dem Danse, da quam ein Donreschlag unde schloch dem Parner fynen Arm aff mit dem Veddelbogen unde XXIV Lude tod up dem Tyn.”)

Among the oldest representations of performers on instruments of the violin kind found in England those deserve to be noticed which are painted on the interior of the roof of Peterborough Cathedral. They are said to date from the twelfth century. One of these figures is particularly interesting on account of the surprising resemblance which his instrument bears to our present violin. Not only the incurvations on the sides of the body, but also the two sound-holes are nearly identical in shape with those made at the present day. Respecting the reliance to be placed on such evidence, it is necessary to state that the roof of Peterborough Cathedral is recorded to have been constructed between the years 1177 and 1194, during the presidency of the Abbot Benedict, and that the ceiling, having been retouched about the year 1788, was thoroughly repaired in the year 1835. Although we find it asserted that “the greatest care was taken to retain every part, or to restore it to its original state, so that the figures, even where retouched, are in effect the same as when first painted,” it, nevertheless, remains a debatable question whether the restorers have not admitted, perhaps unintentionally, some slight alterations, and have thereby somewhat modernised the original appearance of the instruments. A slight touch with the brush at the sound-holes, the screws, or the curvatures, would suffice to produce modifications which might to the artist appear as being only a renovation of the original representation, but which to the musical investigator greatly impair the value of the evidence. At any rate, in renovating effaced or indistinct portions of the original delineations, the restorers might easily be too much influenced by such notions as they acquired from a reference to instruments of their own time. Sculptures are, therefore, perhaps generally more reliable in evidence than frescoes.

The construction of the *organistrum* (Fig. 86), requires but little explanation. A glance at the finger-board reveals at once that the different tones were obtained by raising the keys placed on the neck under the strings, and that the keys were raised by means of the handles at the side of the neck. Of the two bridges shown on the body, the one situated nearest the middle was formed by a wheel in the inside, which projected through the sound-board. The wheel, which slightly touched the strings vibrated them by friction when turned by the handle at the end. The order of intervals was *c, d, e, f, g, a, b-flat, b-natural, c*. These were obtainable on the highest string. The other two strings,

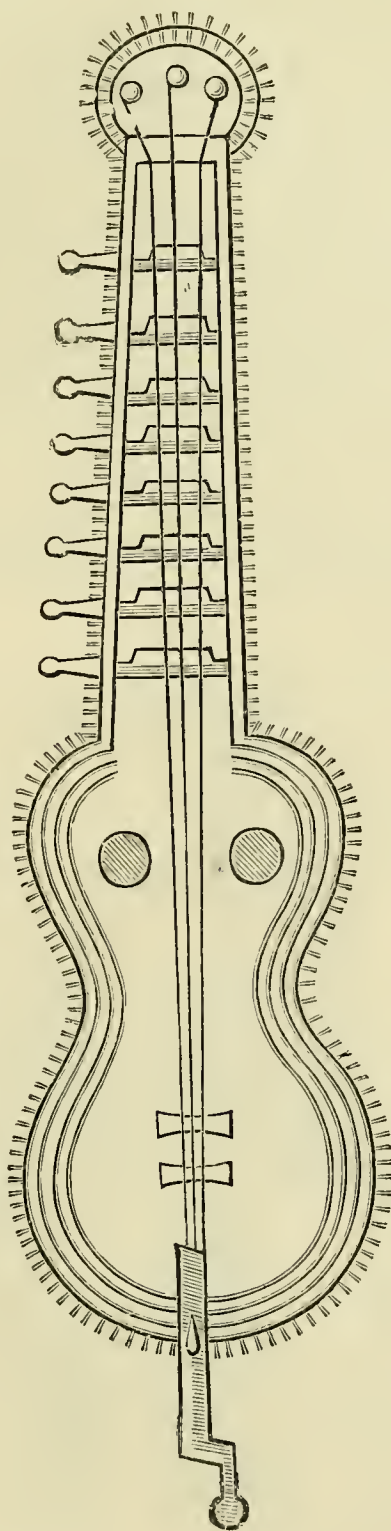


Fig. 86.—ORGANISTRUM. IX<sup>th</sup> Century. (St. Blasius.)

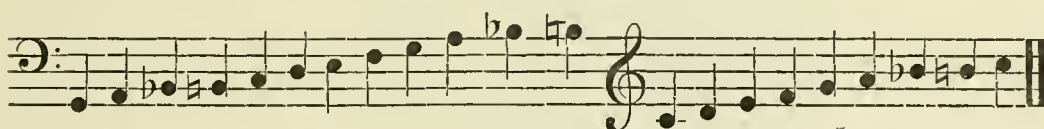


there is reason to suppose, were generally tuned a fifth and an octave below the highest. The *organistrum* may be regarded as the predecessor of the hurdy-gurdy. It was a rather cumbrous contrivance. Two persons seem to have been required to sound it, one to turn the handle, and the other to manage the keys. Thus it is generally represented in mediæval concerts. About the thirteenth century the *organistrum* acquired the name of *symphonia* or *chifonie*. Also the names *lyra* and *viella* were in course of time applied to it. In no kind of nomenclature perhaps have people been less careful than in that of their musical instruments. In the fifteenth century the *organistrum*, or hurdy-gurdy, was also called *rota*. Joannes Cochläus ('Tetrachordum Musices Joannis Coclei,' Nurnberg 1512) says that the *rota* is chiefly used by blind beggars, and he especially mentions the wheel inside. Some modern inquirers have thus been led to conjecture that the *rotta*, or *rote* before described, which was in fact quite a different instrument, must have been a hurdy-gurdy.



Fig. 87.—MONOCHORD. IX<sup>th</sup> Century. (St. Blasius.)

The *monochord* (Fig. 87) was mounted with a single string stretched over two bridges which were fixed on an oblong box. The string could be tightened or slackened by means of a tuning screw inserted into one end of the box. The intervals of the scale were marked on the side, and were regulated by a sort of movable bridge placed beneath the string when required. As might be expected, the *monochord* was chiefly used by theorists; for any musical performance it was but little suitable. About a thousand years ago, when this monochord was in use, the musical scale was diatonic, with the exception of the interval of the seventh, which was chromatic inasmuch as both *b-flat* and *b-natural* formed part of the scale. The following notation exhibits the compass as well as the order of intervals adhered to about the tenth century.



This ought to be borne in mind in examining the representations of musical instruments transmitted to us from that period.

As regards the wind instruments popular during the Middle Ages, some were of quaint form as well as of rude construction.

The *chorus*, or *choron*, was constructed with one tube (Fig. 88) or with two tubes (Fig. 89). There were several varieties of this instru-

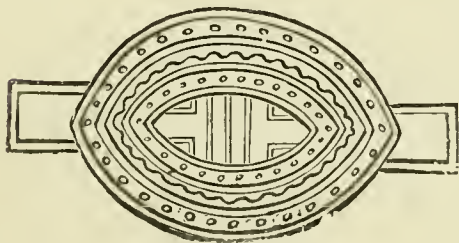


Fig. 88.—SINGLE CHORUS. X<sup>th</sup> Century.

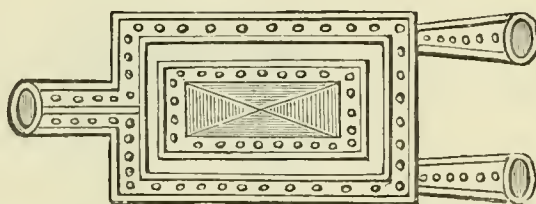


Fig. 89.—DOUBLE CHORUS. X<sup>th</sup> Century.

ment. The illustration, Fig. 90, exhibits a *chorus* constructed with a bladder into which the tube is inserted. Also skin was used instead of bladder. Sometimes it was the skin of a pig, in which the shape of the animal was retained. This kind of *chorus* resembled the bagpipe; another kind resembled the *poongi* of the Hindus, mentioned page 57. Furthermore, the name *chorus* was also applied to certain stringed instruments. One of these had much the form of the *cithara*, Fig. 70. It appears, however, probable that *chorus* or *choron* originally designated a horn (Hebrew, *Keren*; Greek, *Keras*; Latin, *cornu*).

The flutes of the Middle Ages were blown at the end, like the flageolet. The double flute has been already mentioned. An interesting drawing of a player on the double flute of the eleventh century occurs in a MS. in the Bibliothèque Royale, Paris.



Fig. 90.—CHORUS. IX<sup>th</sup> Century. (St. Blasius.)

Of the *fyrinx* there are extant some illustrations of the ninth and tenth centuries, which exhibit the instrument with a number of tubes tied together, just like the Pandean pipe still in use. In one specimen, depicted in a manuscript of the eleventh century in the Bibliothèque Royale, Paris, the tubes were inserted into a bowl-shaped box (Fig. 91). This is probably the *frestele*, *fretel*, or *fretiau*, which in the twelfth and thirteenth centuries was in favour with the French Ménétriers.



Some large Anglo-Saxon trumpets are depicted in a manuscript of the eighth century in the British Museum. The largest kind of trumpet was placed on a stand when blown. Of the *oliphant*, or hunting horn, some fine specimens, which are in the South Kensington Museum, will be found described in the Catalogue.



Fig. 91.—A SPECIES OF SYRINX. XI<sup>th</sup> Century. (Bibliothèque Royale, Paris.)

The *sackbut* (Fig. 92) probably made of metal, could be drawn out to alter the pitch of sound.

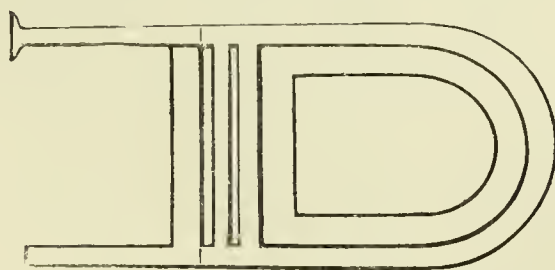


Fig. 92.—SACKBUT. IX<sup>th</sup> Century. (From a MS. in Boulogne.)

The *sackbut* of the ninth century had, however, a very different shape to that in use about three centuries ago. The latter much more resembled the present *trombone*. The Germans call the trombone *posaune*,—a name the original meaning of which is unknown, but which may possibly be a corruption of *buccina*, since we find it by old German writers called *busin*. The name *sackbut* is supposed to be a corruption of *sambuca*. The French, about the fifteenth century, called it *saqueboute* and *saquebutte*.

The most important wind instrument,—in fact, the king of all the musical instruments, is the organ.

The *pneumatic organ* is sculptured on an obelisk which was erected in Constantinople under Theodosius the Great, towards the end of the fourth century. (Fig. 93.) The bellows were pressed by men standing

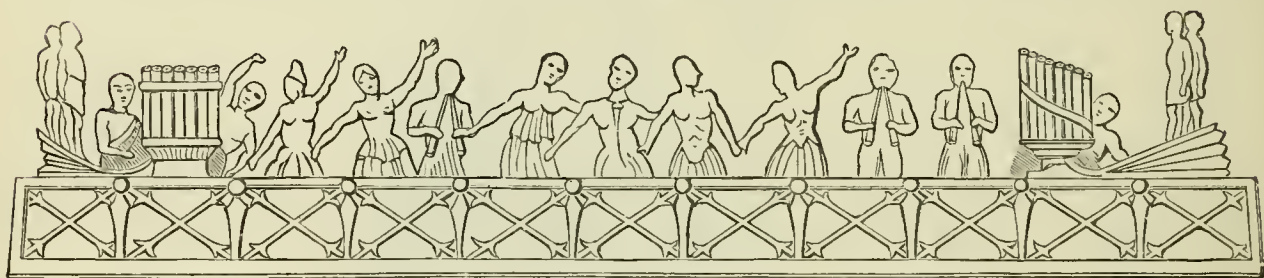


Fig. 93.—PNEUMATIC ORGAN. IV<sup>th</sup> Century. (Constantinople.)

on them. This interesting monument also exhibits performers on the double flute. Also the *hydraulic organ*, which we have found among the Ancients, and which is recorded to have been already known about two hundred years before the Christian era, was, according to some statements, occasionally employed in churches during the earlier centuries of the Middle Ages. Probably it was more frequently heard in secular entertainments, for which it was more suitable. At the beginning of the fourteenth century it appears to have been entirely supplanted by the pneumatic organ. The earliest organs had only about a dozen pipes. The largest, which were made about nine hundred years ago, had only three octaves, in which the chromatic intervals did not occur. Some progress in the construction of the organ is exhibited in an illustration dating from the twelfth century, in a MS. Pfalter of Eadwine, preserved in the library of Trinity College, Cambridge. The instrument (Fig. 94) has ten pipes,—or perhaps fourteen, as four of them appear to be double pipes. It required four men exerting all their power to produce the necessary wind, and two men to play the instrument. Moreover, both players are depicted also busily engaged in directing the blowers about the proper supply of wind. Six men and only fourteen pipes! It must be admitted



Fig. 94.—ORGAN. XII<sup>th</sup> Century. (Cambridge.)

that since the twelfth century some progress has been made, at all events, in the construction of the organ.

The pedal is generally believed to have been invented by Bernhard, a German, who lived in Venice, about the year 1470. There are, however, indications extant pointing to an earlier date of its invention. Perhaps Bernhard was the first who, by adopting a more practicable construction, made the pedal more generally known. On the earliest organs the keys of the finger-board were of enormous size, compared with those of the present day,—so that a finger-board with only nine keys had a breadth of from four to five feet. The organist struck the keys down with his fist, as is done in playing the *carillon*, still in use on the Continent, of which presently some account will be given. The statement commonly found in historical dissertations on the organ, that the old German appellation *Orgelschläger* (“Organ-beater”) denoting the organist, arose from this method of playing, may be correct, but it is doubtful, since also the lute player had a similar appellation, he being called *Lautenschläger* (*i.e.* “Lute-beater”) although he vibrated the strings merely with his fingers.

Of the little portable organ, known as the *regal*, or *regals*, often tastefully shaped and embellished, some interesting sculptured representations are still extant in the old ecclesiastical edifices of England and Scotland. There is, for instance, in Beverley Minster a figure of a man playing on a single regal, or a regal provided with only one set of pipes; and, in Melrose Abbey, the figure of an angel holding in his



arms a double regal, the pipes of which are in two sets. The regal generally had keys like those of the organ, but smaller. A painting by Melozzo da Forli, who lived in the fifteenth century, contains a regal which has keys of a peculiar shape, rather resembling the pistons of certain brass instruments. The illustration (Fig. 95) has been drawn



Fig. 95.—REGAL. XV<sup>th</sup> Century.

from the painting alluded to, which is in the National Gallery. To avoid misapprehension, it is necessary to mention that the name *regal* (or *regals*, *rigols*) was also applied to an instrument of percussion with sonorous slabs of wood. This contrivance was, in short, a kind of harmonica, resembling in shape, as well as in the principle of its construction, the little glass-harmonica, a mere toy, in which slips of glass are arranged according to our musical scale. There is a drawing of a regal of this kind in the plates belonging to the ‘*Encyclopédie méthodique*,’ Tome III., Paris, 1784. In England it appears to have been still known in the beginning of the eighteenth century. Grassineau, in his *Musical Dictionary*, London, 1740, describes the “*Rigols*” as “a kind of musical instrument consisting of several sticks bound together, only separated by beads. It makes a tolerable harmony, being well struck with a ball at the end of a stick.” In the earlier centuries of the Middle Ages there appear to have been some instruments of percussion in favour to which Grassineau’s expression “a tolerable harmony” would scarcely have been applicable. Drums, of course, were known, and their rhythmical noise must have been soft

music, if compared with the shrill sounds of the *cymbalum* (Fig. 96) a contrivance consisting of a number of metal plates suspended on cords, so that they could be clashed together simultaneously; or with the clangour of the *cymbalum* constructed with bells instead of plates (Fig. 97);

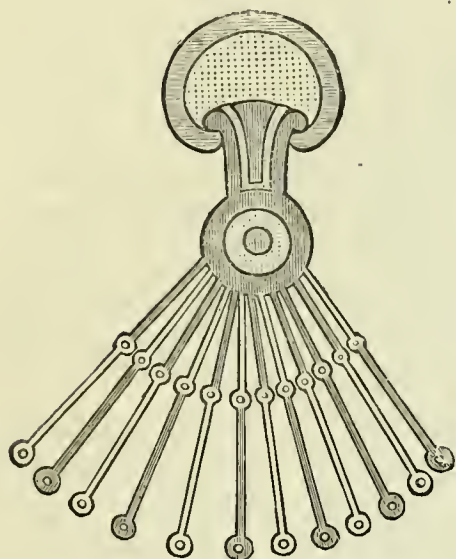


Fig. 96.—CYMBALUM. IX<sup>th</sup> Century.  
(St. Blasius.)

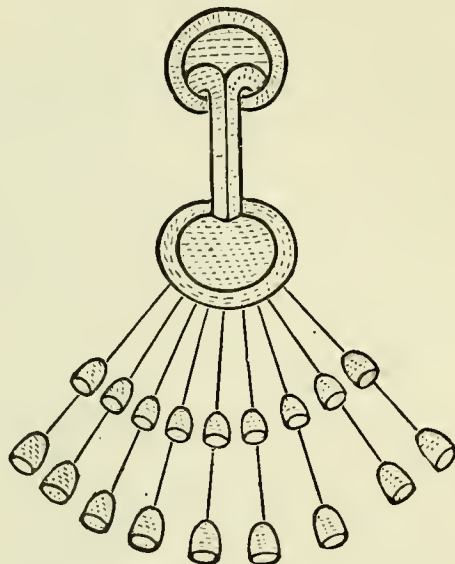


Fig. 97.—CYMBALUM. IX<sup>th</sup> Century.  
(St. Blasius.)

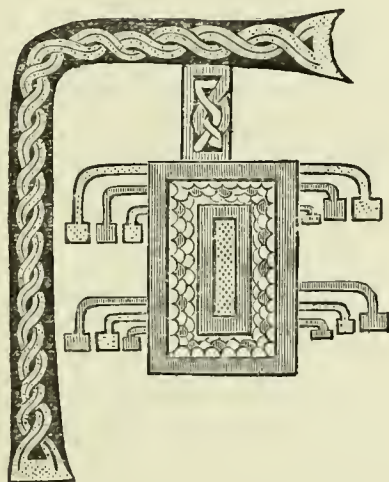


Fig. 98.—BUNIBULUM. IX<sup>th</sup> Century.  
(St. Blasius.)

or with the piercing noise of the *bunibulum*, or *bombulum* (Fig. 98) an instrument which consisted of an angular frame to which were loosely attached metal plates of various shapes and sizes. The lower part of the frame constituted the handle. To produce the noise it evidently was shaken somewhat like the Sistrum of the ancient Egyptians.

The *triangle* nearly resembled the instrument of this name in use at the present day; it was, however, more elegant in shape, and had some metal ornamentation in the middle.

The *tintinnabulum* consisted of a number of bells arranged in regular order and suspended in a frame.

Respecting the orchestras, or musical bands, represented on monuments of the Middle Ages, there can hardly be a doubt that the artists who made them were not unfrequently led by their imagination rather than by an adherence to actual fact. It is, however, not likely that they introduced into such representations instruments that were never admitted in the orchestras which they depicted, and which would have appeared inappropriate to the contemporaries of the artists. An examination of one or two of the orchestras may therefore find a place here, especially as they throw some additional light upon the characteristics of the instrumental music of mediæval time.

A very interesting group of musical performers, dating, it is said, from the end of the eleventh century, is preserved in a bas-relief which formerly ornamented the Abbey of St. Georges de Boscherville near Rouen, and which is now removed to the Museum of Rouen. The Abbey of Boscherville was founded in the year 1066 by Raoul Sire de Tancarville. The orchestra alluded to, (Fig. 99), comprises twelve performers, most of whom wear a crown. The first of them plays upon a *vielle*, or viol, which he holds between his knees as the violoncello is held. His instrument is scarcely as large as the smallest viola da gamba. By his side are a royal lady and her attendant, the former playing on an *organistrum* of which the latter is turning the wheel. Next to these is represented a performer on a *syrinx* of the kind shown in the engraving Fig. 91; and next to him a performer on a stringed instrument resembling a lute, which, however, is too much dilapidated to be recognizable. Then we have a musician with a small stringed instrument resembling the *nabulum*, Fig. 74. The next musician, also represented as a royal personage, plays on a small species of harp. Then follows a crowned musician playing the *vielle*, which he holds in almost precisely the same manner as the violin is held. Again, another, likewise crowned, plays upon a harp, using with the right hand a plectrum, and with the left hand merely his fingers. The last two performers, apparently a nobleman and a gentlewoman, are engaged in striking the *tintinnabulum*,—a set of bells in a frame.

In this group of crowned and respectable minstrels the sculptor has introduced a tumbler standing on his head, perhaps the vocalist of the company, as he has no instrument to play upon. Very likely the sculptor desired to symbolize the hilarious effects which music is







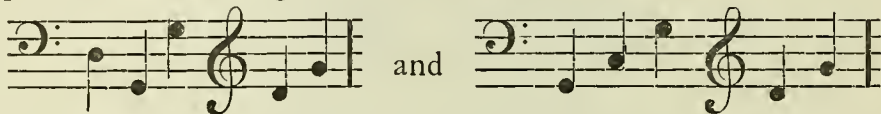
Fig. 99.—BAS-RELIEF FROM THE ABBEY OF ST. GEORGES DE BOSCHERVILLE, NORMANDY. XI<sup>th</sup> Century.

capable of producing, as well as its elevating influence upon the devotional feelings.

The two positions in which we find here the *vielle* held is worthy of notice, inasmuch as it refers the inquirer further back than might be expected for the origin of our peculiar method of holding the violin, and the violoncello, in playing. There were several kinds of the *vielle* in use differing in size and in compass of sound. The most common number of its strings was five. It was tuned in various ways, according to the particular kind of *vielle*. One kind had a string which

was tuned to the note  running at the side of the finger-board instead of over it; this string was, therefore, only capable of producing a single tone. The four other strings were tuned thus,—

 Two other species, on which all the strings were placed over the finger-board, were tuned,—



The contrivance of placing a string or two at the side of the finger-board is evidently very old, and was also gradually adopted on other instruments of the violin class of a somewhat later period than that of the *vielle*; for instance, on the *lira di braccio* of the Italians. It was likewise adopted on the lute, to obtain a fuller power in the bass; and hence arose the *theorbo*, the *arch-lute*, and other varieties of the old lute.

A grand assemblage of musical performers (Fig. 100) is represented on the Portico della Gloria of the famous Pilgrimage Church of Santiago da Compostella, in Spain. This Triple Portal, which is stated by an inscription on the lintel to have been executed by one Master Mateo, in the year 1188, consists of a large semicircular arch, with a smaller arch on either side. The central arch is filled by a tympanum, on which are numerous figures in high relief, the principal being a colossal seated figure of our Blessed Lord, surrounded by figures of the Evangelists and of Angels bearing the instruments of His Passion; the rest of the space being filled up by a number of small figures representing the blessed. Around the tympanum are twenty-four life-sized seated figures, representing the twenty-four Elders seen by St. John in the Apocalypse, each with an instrument of music. These instruments are carefully represented, and are of great interest as showing those in use in Spain at about the twelfth century.

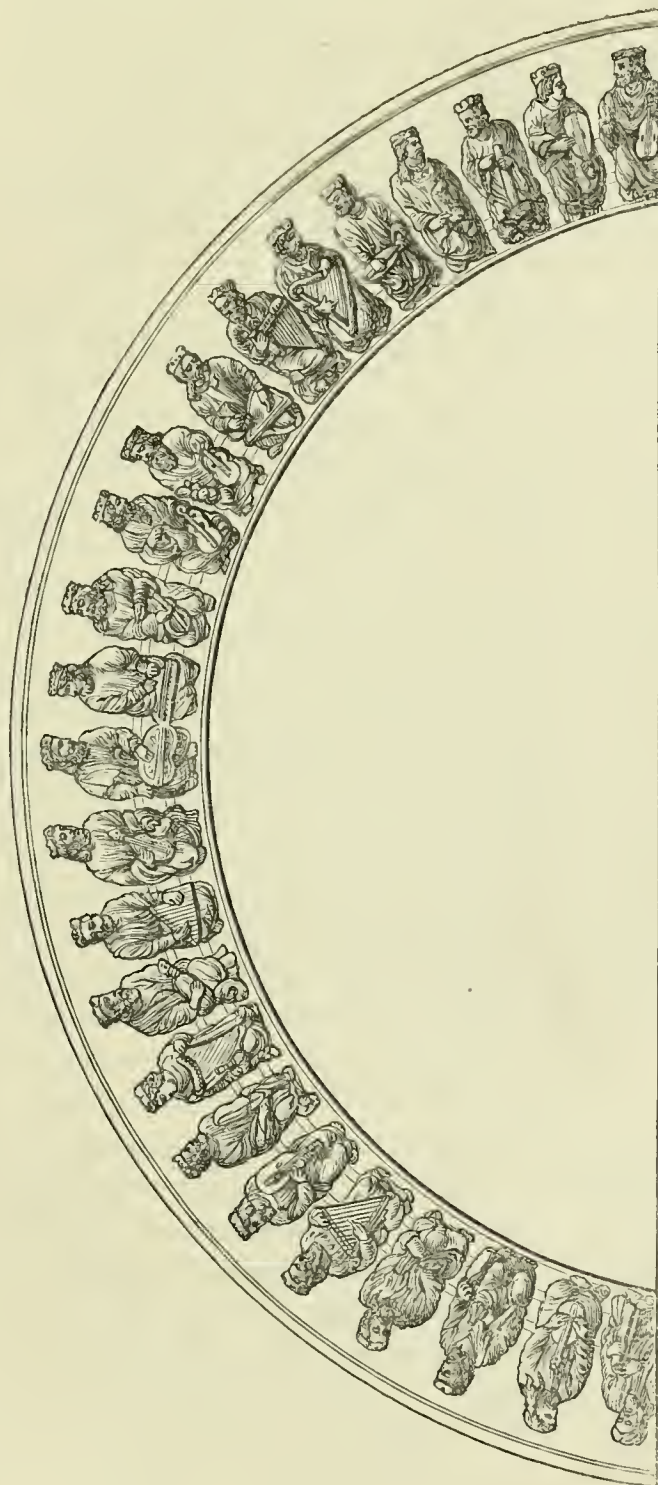


Fig. 100.—MUSICAL PERFORMERS REPRESENTED ON THE PORTICO BELLA GLORIA OF THE CHURCH OF SANTIAGO DA COMPOSTELLA, IN SPAIN. XII<sup>th</sup> Century.



Below the central figure in the tympanum is another, little inferior in size, of St. James (Sant Jago), the patron saint of the church and of Spain. This figure is supported by a beautifully-carved pillar representing the Tree of Jesse, and resting on figures of crouching beasts. The piers on either side rest on similar crouching beasts, and are surmounted by figures of the Twelve Apostles. On one of the smaller arches is represented Purgatory, the souls being confined by a broad band, from which they are released by angels, who place them among the blessed in the centre; on the other arch the lost souls are represented as being carried away by demons.

A cast of this sculpture is in the South Kensington Museum. It was made at Santiago by Signor Dominic Brucciani, for the Museum, by the special permission of the authorities of the Cathedral.

In examining the group of musicians on this sculpture, the reader will probably recognize several instruments in their hands, which are identical with certain ones with which we have already become acquainted in the preceding pages. The *organistrum*, played by two persons, is placed in the centre of the group, perhaps owing to its being the largest of the instruments rather than that it was distinguished by any superiority in sound or musical effect. The ornamental designs, exhibited on its body and neck, were perhaps on the actual instrument carved in wood. Also the hurdygurdy was, some centuries ago, not unfrequently highly embellished.

Besides the small harp seen in the hands of the eighth and nineteenth musicians, which is in form nearly identical with the Anglo-Saxon harp already noticed,—we find a small triangular harp, without a front-pillar, held on the lap by the fifth and eighteenth musicians.

The *falterio*, on the lap of the tenth and seventeenth musicians, resembles the dulcimer, but is played with the fingers instead of with hammers.

The most interesting instrument in this orchestra is, however, the *vihuela*, or Spanish viol, of the twelfth century. The first, second, third, sixth, seventh, ninth, twentieth, twenty-second, twenty-third, and twenty-fourth musicians are depicted with a *vihuela* which bears a close resemblance to the *rebec*. The instrument is represented with three strings, although in one or two instances five tuning-pegs are indicated. A large species of *vihuela* is given to the eleventh, fourteenth, fifteenth, and sixteenth musicians. This instrument differs from the *rebec* in as far as its body is broader and has incurvations at the sides. Also the sound-holes are different in form and position.

The bow does not occur with any of these viols. But, as will be observed, the musicians are not represented in the act of playing; they

are tuning and preparing for the performance. The second of them is adjusting the bridge of his instrument. Perhaps, therefore, the sculptor thought himself justified in omitting the bow, which, exhibited in the hands of so many players would have impaired the artistic effect of the scene. However this may be, the Spaniards, certainly about a century later than the time when this sculpture was made, had several kinds of the *vihuela*, with some of which the bow was not used. The *vihuela de arco*, played with a bow, was strung with four, five, or six strings. The *vihuela de penola* was strung with wire strings which were usually struck with a quill. A large kind of *vihuela de arco* was called *citola albordada*. The rebec, which had three strings, was called *rabé morisco*. Not a few of the Spanish instruments of that period had names derived from the Arabic.

The Minstrels' Gallery of Exeter Cathedral dates from the fourteenth century. It was constructed in the reign of Edward III. for the accommodation of musicians engaged in performances on occasions of solemn celebrations. Its front is divided into twelve niches, each of which contains a winged figure, or an angel, playing on an instrument of music. (Fig. 101.) There is a cast of this famous sculpture in the South Kensington Museum. The instruments are so much dilapidated that some of them cannot be clearly recognized; but, as far as is ascertainable, they appear to be as follows:—1. The *cittern*. It possibly may have been intended for the lute, but its shape more resembles the old English cittern, strung with wire. 2. The *bagpipe*. 3. The *clarion*, a small trumpet having a shrill sound. 4. The *rebec*. 5. The *psaltery*. 6. The *syrinx*. 7. The *sackbut*. 8. The *regals*. 9. The *gittern*, a small guitar strung with catgut. 10. The *shalm*. 11. The *timbrel*. It resembles our present tambourine, and has a double row of gingles. 12. *Cymbals*.

Most of these instruments have been already noticed in the preceding pages. The *shalm*, or *shawm*, was a pipe with a reed in the mouth-hole. An old drawing represents it with a rather wide bell; in the sculptures this shape of the bell is generally not apparent, but most of these monuments have suffered from the tooth of time. In Germany, where the shalm was called *schalmey*, it closely resembled the *zamr*, or *zourna*, of the Arabs, from whom it was probably derived. Its reed was protected by a cover having an orifice at the top through which the instrument was blown. However, from its name, evidently derived from *calamus*, it might be conjectured that the Romans introduced it into Western Europe.

The *wait* was an English wind instrument of the same construction. If it differed in any respect from the *shalm*, the difference consisted



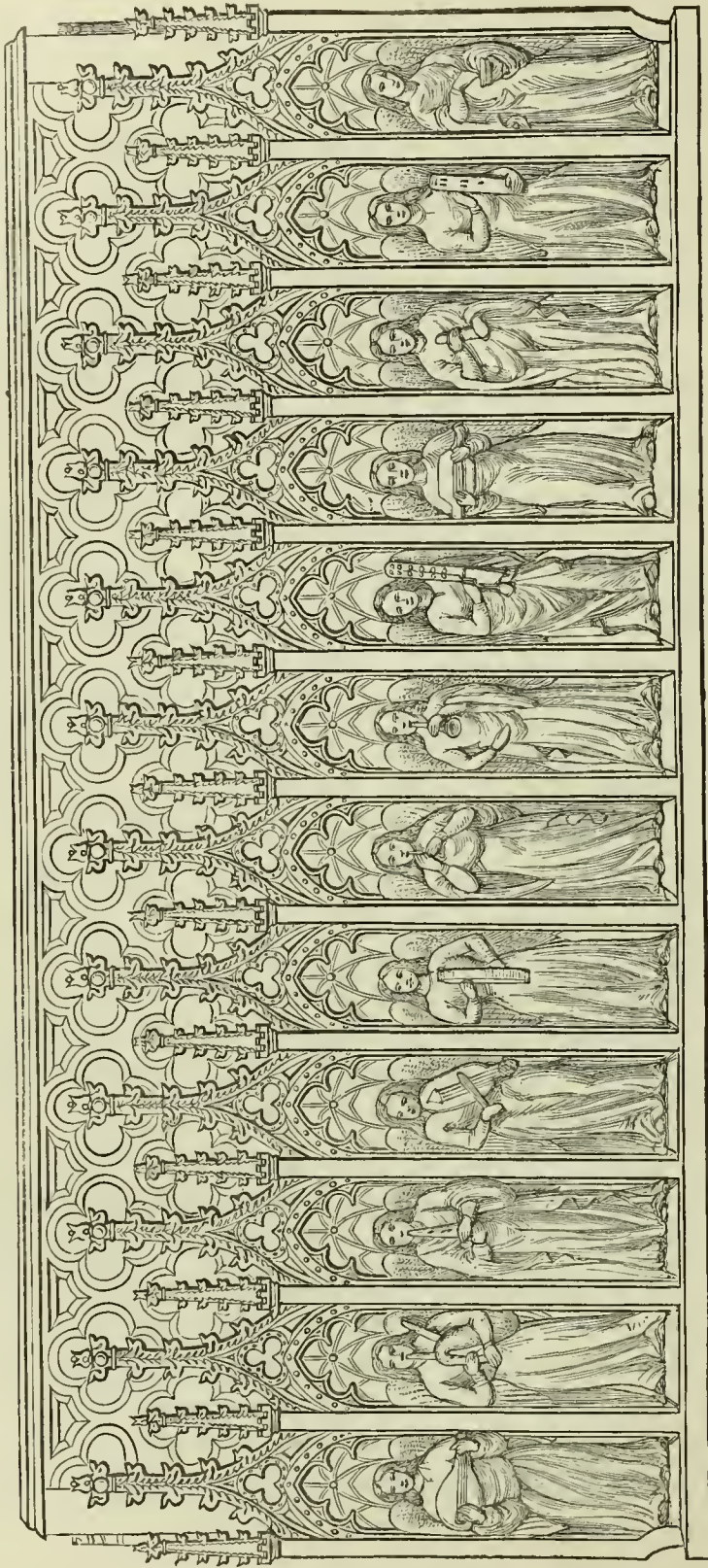


Fig. 101.—FRONT OF THE MINSTRELS' GALLERY, EXETER CATHEDRAL. XIV<sup>th</sup> Century.



probably in the size only. The *wait* obtained its name from being used principally by watchmen, or *waights*, to proclaim the time of night. Such were the poor ancestors of our fine oboe and clarinet.

#### POST-MEDIÆVAL MUSICAL INSTRUMENTS.

Attention must now be drawn to some instruments which originated during the Middle Ages, but which attained their highest popularity at a somewhat later period.

The *lute*, for instance, was about three hundred years ago almost as popular as is at the present day the pianoforte. Originally it had eight thin catgut strings arranged in four pairs, each pair being tuned in unison; so that its open strings produced four tones. In the course of time more strings were added. Until the sixteenth century twelve was the largest number, or rather, six pairs. However, eleven was for some centuries the most usual number of strings. These produced six tones, since they were arranged in five pairs and a single string. The latter, called the *chanterelle*, was the highest. According to Thomas Mace, the English lute in common use during the seventeenth century had twenty-four strings, arranged in twelve pairs, of which six pairs ran over the finger-board, and the other six by the side of it. This lute was therefore, more properly speaking, a theorbo. The neck of the lute, and also of the theorbo, had frets consisting of catgut strings tightly fastened round it at the proper distances required for ensuring a chromatic succession of intervals. The illustration, Fig. 102, represents a lute-player of the sixteenth century. The frets are not indicated in the old engraving from which the illustration has been taken. The order of tones adopted for the open strings varied in different centuries and countries. This was also the case with the notation of lute music. The most common practice was to write the music on six lines, the upper line representing the first string; the second line, the second string, and so on; and to mark with letters on the lines the frets at which the fingers ought to be placed—*a* indicating the open string, *b* the first fret, *c* the second fret, and so on.

The lute was made of various sizes, according to the purpose for which it was intended in performance. The treble-lute was of the



Fig. 102.—LUTE. XVI<sup>th</sup> Century.



smallest dimensions, and the bass-lute of the largest. The *theorbo*, or double-necked lute, which appears to have come into use during the sixteenth century, had, in addition to the strings situated over the finger-board, a number of others running at the left side of the finger-board, which could not be shortened by the fingers, and which produced the bass tones. The largest kinds of theorbo were the *archlute* and the *chitarrone*.

It is, however, unnecessary to enter here into a detailed description of any instruments which have been popular during the last three centuries, since the Museum contains specimens of many of them of which some account is given in the Catalogue. Suffice it to refer the reader to the illustrations of the cither, virginal, spinet, clavichord, harpsichord, and other antiquated instruments much esteemed by our forefathers.

Those who examine these old relics will probably wish to know something about their quality of tone. "How do they sound? Might they still be made effective in our present state of the art?" are questions which naturally occur to the musical inquirer having such instruments brought before him. A few words bearing on these questions may therefore not be out of place here.

It is generally and justly admitted that in no other branch of the art of music has greater progress been made since the last century than in the construction of musical instruments. Nevertheless, there are those who think that we have also lost something here which might with advantage be restored. Our various instruments, by being more and more perfected, are becoming too much alike in quality of sound, or in that character of tone which the French call *timbre*, and the Germans *Klangfarbe*, and which Professor Tyndall in his 'Lectures on Sound' has translated *clang-tint*. Every musical composer knows how much more suitable one *clang-tint* is for the expression of a certain emotion than another. Our old instruments, imperfect though they were in many respects, possessed this variety of *clang-tint* to a high degree. Neither were they on this account less capable of expression than the modern ones. That no improvement has been made during the last two centuries in instruments of the violin class is a well-known fact. As to lutes and cithers the present collection contains specimens so rich and mellow in tone as to cause musicians to regret that these kinds of instruments have entirely fallen into oblivion.

Moreover, as regards beauty in appearance, our antiquated instruments were superior to our present ones. Indeed, we have now scarcely



a musical instrument which can be called beautiful. The old lutes, cithers, viols, dulcimers, &c. are not only elegant in shape, but are also often tastefully ornamented with carvings, designs in marquetry, and painting.

It is, however, unnecessary to enlarge upon these questions, since the present collection affords sufficient evidence for the inquirer to judge how far the above statements are well founded.

The player on the *viola da gamba*, at the time of the Commonwealth, shown in the engraving, Fig. 103, is a reduced copy of an illustration in 'The Division Violist, or an Introduction to the Playing upon a Ground, by Christopher Simpson,' London, 1659. It shows exactly how the frets were regulated, and how the bow was held. The most popular instruments played with a bow, at that time, were the *treble-viol*, the *tenor-viol*, and the *bass-viol*. The last two were real Viola da Gambas, being held between the knees like the Violoncello. The *lyra-viol* was played from a notation similar to that used for the lute.

It was usual for viol players to have "a chest of viols," a case containing four or more viols, of different sizes. Thus, Thomas Mares, in his directions for the use of the viol, 'Musick's Monument,' London, 1676, remarks, "Your best provision, and most complete, will be a good chest of viols, six in number, viz., two basses, two tenors, and two trebles, all truly and proportionably suited." The violist, to be properly furnished with his requirements, had therefore to supply himself with a larger stock of instruments than the violinist of the present day.

That there was, in the time of Shakespeare, a musical instrument called *recorder*, is undoubtedly known to most readers from the stage direction in Hamlet: *Re-enter players with recorders*. But not many are likely to have ever seen a recorder, as it has now become very scarce. An illustration of this instrument is therefore here submitted (Fig. 104). It has been copied from 'The Genteel Companion; Being exact Directions for the Recorder: With a Collection of the best and newest Tunes and Grounds extant; Carefully composed and gathered by Humphry Salter, London, 1683.'

From an old story alluding to the instrument, found in old jest books, it might be conjectured that there was actually no difference between the recorder and the common *flûte-à-bec*:—"A merrie Recorder of London mistaking the name of one Pepper, call'd him Piper: whereunto the partie excepting, and saying, Sir, you mistake,



Fig. 103.—VIOLA DA GAMBA. English. XVII<sup>th</sup> Century.

my name is Pepper, not Piper; hee answered, Why, what difference is there, I pray thee, between Piper in Latin and Pepper in English? is it not all one? No, Sir, reply'd the other, there is even as much difference betweene them as is between a Pipe and a Recorder."

Nevertheless, there appears to have been some difference, inasmuch as the *recorder* had at one side, near the mouth-piece, a hole which was covered with a thin bladder,—a contrivance adopted for the purpose of affecting the quality of sound.

The *shalm*, *sackbut*, *dulcimer*, *psaltery*, and other instruments popular in England at the time of the Reformation, the names of which were adopted in the English translation of the Bible for certain Hebrew and



Fig. 104.—RECORDER. English. XVII<sup>th</sup> Century.

Greek instruments mentioned in the original text, have been already alluded to. No doubt they gradually underwent some modifications in the course of almost every century. The *pipe and tabor*,—the latter a little hand-drum,—were not unfrequently played together by the same person. The custom is found depicted on sculptures and paintings of the fourteenth and fifteenth centuries. The Germans used for this purpose a small pipe, called *schwegel*, which had only three finger-holes placed close together at the lower end of the tube. The shrillness of the sound of the *schwegel* may have been somewhat relieved by the rhythmical accompaniment of the little drum. Perhaps this combination suggests itself naturally; at any rate, we find it also among the American Indians. In Bolivia, those of the aborigines who have adopted the Roman Catholic faith, are permitted to introduce, on certain religious festivals, some of their ancient ceremonies. On these occasions they not unfrequently exhibit themselves adorned with most grotesque head-dresses, and playing upon rude instruments of music; and amongst them may generally be witnessed a zealous performer on the pipe and tabor.



The *bagpipe* appears to have been from time immemorial a special favourite instrument with the Celtic races; but it was perhaps quite as much admired by the Slavonic nations. In Poland, and in the Ukraine, it used to be made of the whole skin of the goat, in which the shape of the animal, whenever the bagpipe was expanded with air, appeared fully retained, exhibiting even the head with the horns; hence the bagpipe was called *kofã*, which signifies a goat.

Considering the high reputation which the bagpipe still enjoys in the North of Britain, it may interest the reader to see a drawing of the Scotch bagpipe of the eighteenth century (Fig. 105). It is a reduced copy of an illustration given in 'Musical Memoirs of Scotland, by Sir John Graham Dalyell,' Edinburgh, 1849. This is a specimen of the Great Highland Bagpipe, dating from the year 1745. The animating found of the bagpipe upon the Scotchman is graphically illustrated in some old military records, of which the following may serve as an example:—"At the battle of Quebec, in the year 1759, while the British troops were retreating in great disorder, the General complained to a field officer in Frazer's regiment of the bad behaviour of his corps. 'Sir,' said the officer with some warmth, 'you did very wrong in forbidding the pipers to play this morning: nothing encourages the Highlanders so much in the day of battle; and even now they would be of some use.' 'Let them blow like the devil then,' replied the General, 'if it will bring back the men.' The pipers were then ordered to play a favourite martial air, and the Highlanders, the moment they heard the music, returned and formed with alacrity in the rear."

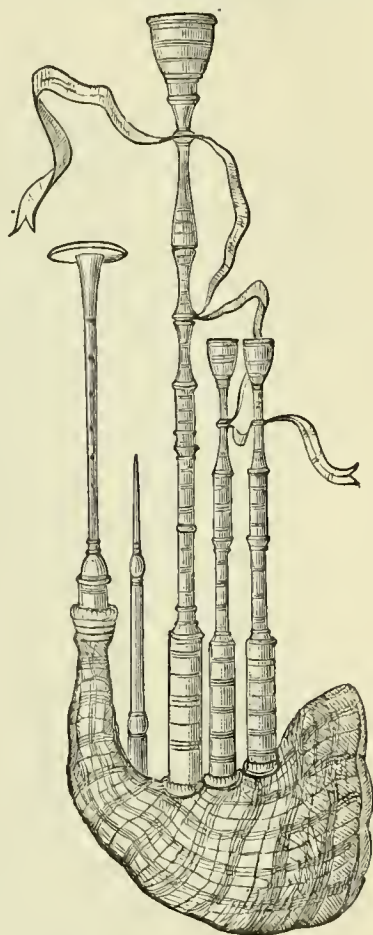


Fig. 105.—SCOTCH BAGPIPE.  
XVIII<sup>th</sup> Century.

The woodcut, Fig. 106, represents an Irish bagpipe of the sixteenth century, in the hands of a player who marches in front of a band of insurgents. It is copied from an illustration given in "The Image of Irelande, with a discovery of Woodkarne, wherein is most lively expressed the nature and quality of the faied wilde Irishe Woodkarne, their notable aptnesse, celeritie and pronesse to Rebellion, and by way

of argumēte is manifested their originall, and offspring, their descent and Pedigree," &c., by John Derricke, London, 1581.



Fig. 106.—IRISH BAGPIPE. XVI<sup>th</sup> Century.

The minstrel warrior supplies the air to the bag from his mouth. As regards the employment of bellows with the bagpipe, Joseph Walker (*'Historical Memoirs of the Irish Bards,'* London, 1784, p. 78) remarks, "It was reserved for the Irish to take it from the mouth, and to give it its present complicated form, that is, two short drones and a long one, with a chanter, all of which are filled by a pair of small bellows, inflated by a compressive motion of the arm." There is, however, no evidence of bellows having been used with the bagpipe in Ireland at so early a period as is known to have been the case in France and Italy. Howbeit, the bagpipe is evidently of high antiquity in Ireland, and is alluded to in Irish poetry and prose said to date from the tenth century. A pig gravely engaged in playing the bagpipe is represented in an illuminated Irish manuscript, compiled in the year 1300. Similar figures we find sculptured in Scotland and England on old



ecclesiastical edifices (Melrose Abbey, Ripon Cathedral, Beverley Minster, &c.), where they certainly appear an inappropriate decoration.

Some further account of the bagpipe will be found in the subsequent pages of the Catalogue.

The *bell* has always been so much in popular favour in England that some account of it must not be omitted in the present essay. Paul Hentzner, a German, who visited England in the year 1598, records in his Journal: "The people are vastly fond of great noises that fill the ear, such as the firing of cannon, drums, and the ringing of bells; so that in London it is common for a number of them that have got a glass in their heads to go up into some belfry, and ring the bells for hours together for the sake of exercise." This may be exaggeration,—not unusual with travellers. It is, however, a fact that bell-ringing has been a favourite amusement with Englishmen for centuries.

The bell, in its various shapes, and in its many associations with popular usages, offers indeed a wide field for investigation. The Christian church bell was, according to common tradition, invented by Paulinus, bishop of Nola, in Italy, who lived about A.D. 400. He may possibly have introduced it into European countries; but evidence is not wanting in proof of similar bells having been known in Asia at a much earlier period. In 'Auli Apronii Vermehrte Reisebeschreibung,' Franco-Porto, 1724, we read that there was formerly in a tower at Nola an old bell which had the reputation of being the first bell made for the Christian church. This interesting relic, to whose sounds the people ascribed certain miraculous powers, is described as having been of a peculiar shape, and as having had holes at the top. Considering that the larger bells of Asiatic countries are frequently open at the top, it appears not improbable that Paulinus imported one of these, or that he had one made in imitation of a specimen obtained from the East.

The largest bells extant in European countries, and probably in the whole world, are to be found in Russia. These huge instruments remain stationary when being sounded, or at least are very rarely swung. The celebrated bell in Moscow, known by the name of *Czar Kolokol*, is the most ponderous of all. Its weight is 443,772 pounds; its height 21 feet 4 inches; its diameter, 22 feet 5 inches; and its thickness, 23 inches. It was cast in the year 1653. In the year 1737 it fell to the ground from the scaffolding by which it was suspended, whereby it sustained a fracture. The Emperor Nicholas caused it to be dug out of the ground into which it had partially sunk, and raised it, in the year 1837, on the pedestal of granite on which it now rests. It stands at the foot of the famous Ivan Veliki, or 'Tower of John the Great,'



which is situate in the Kremlin. The Ivan Veliki rises to the height of 209 feet, and is surmounted by a gilded dome. This tower contains several fine-toned bells, the largest of which weighs 127,836 pounds, and is therefore only about one-third the weight of Czar Kolokol, or 'The Monarch.' The great bell at Erfurt weighs 28,224 pounds; that of St. Peter's at Rome, 18,607 pounds; 'Great Tom' in Oxford, 17,000 pounds; the great bell of St. Paul's, London, 11,474 pounds; 'Great Tom' of Lincoln, 9,894 pounds.

The way in which church bells are suspended and fastened, so as to permit of their being made to vibrate in the most effective manner, without damaging by their vibration the building in which they are placed, is in some countries very peculiar. The Italian *campanile*, or tower of bells, is not unfrequently separated from the church itself. The *campanile* at Cremona, which is the highest in Italy, has an elevation of 395 feet. In Spain, a celebrated *campanile*, belonging to the Cathedral at Seville, is 350 feet high, and is three hundred years old. Respecting the English *belfry*, it is noteworthy that, in the opinion of some inquirers, the term has been derived from *bell*, and the Anglo-Saxon, *fridth* (German, *friede*), which means "peace";—while others trace it to the French *beffroi*, which in old French is *belfroit*, and which during the Middle Ages was a term applied to a certain scaffolding in the shape of a tower placed on wheels. This machine, on the top of which the royal standard was hoisted, served in warfare as a watch-tower, or a station for scrutinizing the enemy. At the foot of the mast on which the standard was displayed, a priest celebrated every morning Holy Mass. The *beffroi* is said to have originally been transmitted into France and other European countries from Italy, where it was called *carroccio*. Bonanni, in his 'Descrizione degl' Istromenti Armonici d' ogni Genere,' gives an illustration of the *carroccio*. It was moved on four wheels. The bell, which was called *martinella*, was placed in the middle, just beneath the standard, and was rung by means of a rope to convey signals; in fact, it served much the same purpose as the trumpet at the present day. Respecting the word *beffroi*, it may be added that some writers believe it to have been derived from *effroi*, "terror," because the bell was used to give the alarm. However this may be, we certainly find in some of the French Musical Dictionaries the term *beffroi* applied to the *tam-tam*, or *gong*, which in modern times is occasionally introduced in the orchestral score for the purpose of producing terrific effects.

In Servia the church bells are often hung in a frame-work of timber built near the west end of the church. The Turks, during their dominion in that country, did not allow the use of bells, and it was

only later, after the prohibition became relaxed, that this erection was added. The Turks, like all adherents to the Islam religion, are averse to the use of bells for summoning the people to prayer, and employ instead the Muëzzin, who ascends the minaret at stated times, and recites the duty of worship. The new churches in Servia, which were built after the Turks had somewhat lost their sway over the country, are generally provided with a belfry over the west entrance. The Turkish government has, however, recently become more tolerant on this point, and the sound of the Christian church bell may now be heard in some towns of Asia Minor as well as in European countries under Turkish dominion.

In Zante and other islands of Greece the belfry is usually separate from the church. The reason assigned by the Greeks for having adopted this plan is that in case of an earthquake the bells are likely to fall, and, were they placed in a tower, would destroy the roof of the church, and might cause the destruction of the whole building. Also in Russia a special edifice for the bells is generally separate from the church. It is called *kolokolnik*. Moreover, in the Russian villages the bells are not unfrequently hung in the branches of an oak-tree near the church. In Iceland the bell is usually placed in the lych-gate leading to the grave-yard.

The inscriptions on church bells are sometimes so quaint, and in some countries so characteristic, that a collection of them would probably be not less entertaining than the published collections of epitaphs from gravestones.

The *curfew* (or *couvre-feu*) used formerly to be tolled in England in obedience to a stringent law, said to have been made by William the Conqueror. A similar custom appears, however, to have been observed in England as well as on the Continent before the Norman Conquest. The booming of the *curfew* intimated to the people that they should cover up their fires, put out their lights, and go to bed. Eight o'clock appears to have been the usual time fixed by the Government for this manifestation of paternal care by means of the *curfew*.

Tempting as it might be to point out some curious resemblances between old usages of this kind not yet quite extinct in Europe, and those of Asiatic nations, the subject hardly falls within the scope of the present inquiry.

The Sanctus-bell, used by the Roman Catholics in the celebration of the Mass, has its counterpart in the *ghunta*, a little hand-bell which the Brahminic priests in Hindustan have used from time immemorial in their religious ceremonies.

The Morris (or Morrice) dance, in which the performers wear bells on their garments, was some centuries ago a favourite dance in England, and is even at the present day occasionally performed in some districts of the country, especially on May-day. This dance is evidently derived from the Arabs. It is the Morisco, or Moorish dance, which from Spain gradually found its way into other European countries, more or less modified.

The idea of forming of a number of bells a musical instrument such as the *carillon*, is by some inquirers surmised to have suggested itself first to the English and Dutch; but what we have seen in Asiatic countries sufficiently refutes this conjecture. Moreover, not only the Romans employed variously arranged and attuned bells, but also among the Etruscan antiquities an instrument has been discovered which is constructed of a number of bronze vessels placed in a row on a metal rod. Likewise, numerous bells varying in size and tone, have been found in Etruscan tombs. Among the later contrivances of this kind in European countries deserve to be noticed the sets of bells suspended in a wooden frame which occur in representations of musical performances dating from the Middle Ages. We have already observed a noble personage of the eleventh century performing on such an instrument (See engraving, Fig. 99), and the British Museum possesses a manuscript of the fourteenth century in which King David is depicted holding in each hand a hammer with which he strikes upon bells of different dimensions, which are suspended on a wooden stand.

It may be supposed that the device of playing tunes by means of bells merely swung by the hand, is also of ancient date. The Lancashire bell-ringers deserve a passing notice here, since their manner of performing may be considered as peculiarly appertaining to English national music. Each of the ringers constituting the band manages two bells, holding one in either hand. Thus, an assemblage of seven ringers insures fourteen different tones; and as each ringer may change his two notes by substituting two other bells if required, even compositions with various modulations, and of a somewhat intricate character, are executable,—provided the ringers are good timeists; for, each has, of course, to take care to fall in with his note, just as a member of the Russian Horn Band contributes his single note whenever it occurs in the musical composition being performed.

Peal-ringing is another pastime of the kind which may be regarded as pre-eminently national to England. The bells constituting a peal are frequently of the number of eight, attuned to the diatonic scale. Also peals of ten bells, and even of twelve, are occasionally formed. A peculiar feature of peal-ringing is that the bells, which are provided



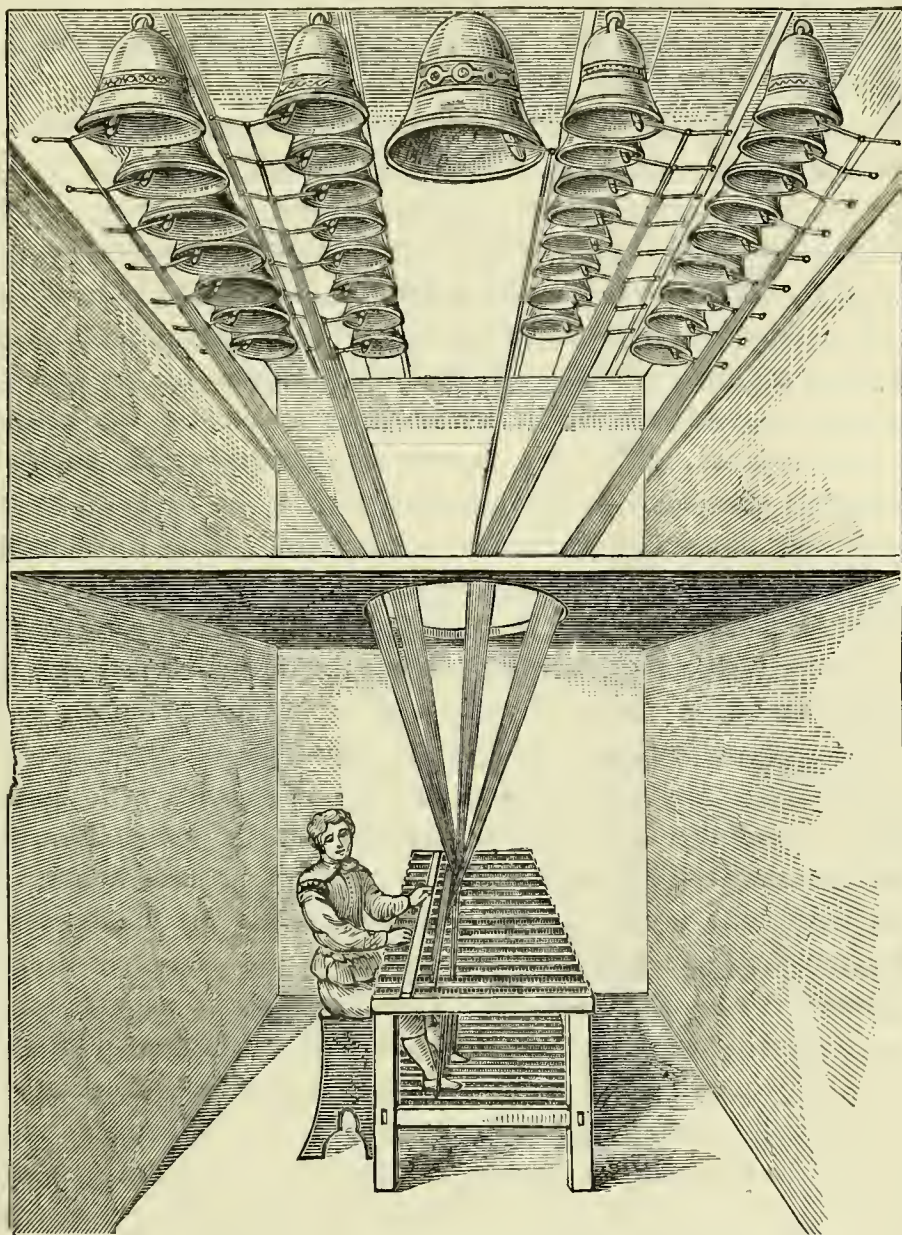


Fig. 107.—CARILLON. The Netherlands.

with clappers, are generally swung so forcibly as to raise the mouth completely upwards. The largest peal, and one of the finest, is at Exeter Cathedral. Another celebrated one is that of St. Margaret's, Leicester, which consists of ten bells. Peal-ringing appears to be of an early date in England. Egelric, Abbot of Croyland, who lived at the time of King Edgar, is recorded to have cast, about the year 960, a set of six bells; but it is likewise recorded that his predecessor, Thurketul, had led the way to this fancy. In the year 1456 a fine,

and at that time unusually large peal, consisting of five bells, was sent by Pope Calixt III. to King's College, Cambridge, where it was in use for about three centuries. At the time of Queen Elizabeth the art of ringing was evidently much cultivated.

The *carillon* (Fig. 107) is especially popular in the Netherlands and Belgium, but is also found in Germany, Italy, and some other European countries. It is generally placed in the church tower, but also sometimes in other public edifices. The statement repeated by several writers that the first carillon was invented in the year 1481 in the town of Aloft in Belgium, is unreliable, for the town of Bruges in the province of Flanders claims to have possessed similar chimes in the year 1300. There are, however, two kinds of carillons in use on the continent, viz. : clock chimes, which are moved by machinery, like a self-acting barrel-organ; and such as are provided with a set of keys, by means of which the tunes are played by a musician. The carillon in the 'Parochial-Kirche' at Berlin, which is one of the finest in Germany, contains thirty-seven bells. It is provided with a hollow cylinder of wrought iron, which is worked by heavy weights. The bells are struck in the inside with hammers. By means of the cylinder, and the mechanism connected with it, it plays a number of chorales without further assistance; for, the cylinder is perforated with little holes into which are inserted the iron pins required for the production of any particular tunes which it is intended to perform at fixed hours. This carillon is likewise provided with a key-board for the hands, and with a pedal, which together place at the disposal of the performer a compass of rather more than three octaves. The keys of the manual are metal rods somewhat above a foot in length. The performer presses them down with the palms of his hand. The keys of the pedal are of wood; these, especially, require in their treatment a considerable exertion. This carillon was cast in Amsterdam in the year 1714. The performance on such an instrument requires not only great dexterity, but also a considerable physical power. It is astonishing how rapidly passages can be executed upon it by the player, who is generally the organist of the church in which he acts as *carillonneur*. When engaged in the last-named capacity, he usually wears leathern gloves to protect his fingers, as they are otherwise apt to become ill fit for the more delicate treatment of the organ.

Some of the *carillons* in Holland and Belgium are very large; that of the Cathedral at Antwerp contains nearly a hundred bells. Dr. Burney, in his journal entitled 'The Present State of Music in Germany, the Netherlands, &c., London 1775,' has given a rather amusing account of the exertions of the *carillonneurs* which he witnessed at Ghent



and Amsterdam. In the last-named city he ascended the tower of the *Stad-huys*, or town-hall, to observe the performer at work; after a quarter of an hour's furious playing, the *carillonneur*, having worked himself into a profuse perspiration, put on his night-cap and said that he was forced to go to bed the instant it was over, to recover himself, he being so much exhausted as to be utterly unable to speak.

The want of a contrivance in the *carillon* for stopping the vibration, has the effect of making rapid passages, if heard near, sound as a confused noise; only at some distance are they tolerable. However, it must be remembered that the *carillon* is intended especially to be heard from a distance. Successions of tones which, if heard together, form a consonant chord, and which have some duration, are evidently the most suitable for this instrument.

Indeed, every musical instrument possesses certain characteristics which render it especially suitable for the production of some particular effects. The invention of a new instrument of music has, therefore, not unfrequently led to the adoption of new effects in compositions. Take, for instance, the pianoforte, which was invented in the beginning of the eighteenth century, and which has now obtained a popularity greater than any other instrument of music probably ever obtained. Its characteristics inspired our great composers—and among them especially Beethoven in his Sonatas—to the invention of effects, or expressions, which cannot be properly rendered on any other instrument, however superior in some respects it may be to the pianoforte. Thus also the great improvements in the construction of our brass instruments, which have been made during the present century, and the invention of several new brass instruments, have evidently been not without influence upon the conceptions displayed in our modern orchestral works.

In concluding this essay, a few remarks must be submitted to the reader respecting the combinations of various instruments in musical performances. Without bestowing some attention upon this subject, it is in many instances hardly possible to form an opinion as to the effects which any particular instrument is capable of producing. Many instruments,—nay, it may be said by far the greater number, are scarcely ever used singly, but generally in combination with at least one or two others; moreover, they frequently form part of a band, or orchestra, of some kind. It may easily be understood that they require to be considered especially with reference to their capabilities in their most usual connexion with others. Take, for instance, the kettle-drums, these are capable only of producing two deep sounds which by themselves are musically all but useless; yet, what admirable effects have our great composers achieved by means of kettle-drums in their orchestral works!



Again, it must be borne in mind that generally, if two or more instruments of a different kind are played together in unison, or in octaves, a quality of sound is produced which is very different from any quality of sound peculiar to each of these instruments single. This fact can hardly have escaped the notice of the attentive listener to an orchestral composition, even if he has never occupied himself with the reading of Scores.

Again, many instruments possess distinct qualities of sound in their several octaves. Thus, the clarinet may be said to have three different registers, viz.: the high register, the tones of which are bright and piercing; the medium register, having tones which are full and mellow; and the low register, the tones of which are veiled and sombre. It is not generally the case that the different registers of an instrument are equally valuable, or that one is used as commonly in performances as another. Not unfrequently certain tones are more difficult to produce than others, and are for this reason less commonly put in requisition.

Such facts have to be taken into account in estimating the capabilities of instruments appertaining to foreign nations, which have hitherto been all but unknown to our musicians, as is the case with many of those described in this work.

A survey of the various kinds of orchestras in vogue at the present day in different parts of the world, might be interesting and instructive to musicians. It ought, however, to comprise also the most characteristic musical bands popular among uncivilized and semi-civilized races. A brief allusion to one or two, by way of example, will suffice.

The Buddhists in Tibet have evidently a decided predilection for loud performances in their religious worship. Captain Turner witnessed a sacred concert of this description by a band forming part of a solemn procession. He says "First were ten persons with huge trumpets, which they sounded resting one end upon the ground; next followed twenty men with large tabors, a sort of drum about three feet in diameter, fixed by the side upon a pedestal and beaten by a long elastic curved iron; then came twenty men with cymbals, and two with the sea-shell, here termed *chaunk*. Having entered the most spacious and open street, they began to arrange themselves in order. The trumpets took their station upon the right, next to them the *chaunks*, and then the tabors; the cymbals were in front. The Lama, having a wand in one hand, and in the other a casket or brazier of incense, stood before the whole band, appearing with his wand to mark the time and to give them words, which all, except the instrumental performers, chanted to the music. I observed that the performance of this ceremony continued for nearly half an hour,

when the procession moved on." ('An Account of the Embassy to the Court of the Teshoo Lama in Tibet,' London, 1800.)

Again, very peculiar are the two orchestras, one placed at each side of the scene, which are generally found in a Burmese theatre of the better class, and of which, like the orchestra of the Buddhist temple just alluded to, we are enabled to form a tolerably exact idea, since we possess several drawings of the singular musicians faithfully copied from nature by recent travellers.

The Javanese have an orchestra called *gamâlan*, which consists of a number of curious instruments mostly belonging to the harmonicon class.

Among the Hindus we meet with the renowned *nobat*,—a band formed principally of instruments especially suited for martial music. Various other kinds of Hindu orchestras could be pointed out, some of which are evidently, in so far as regards the number of performers employed, scarcely surpassed by the largest of our own usual combinations of instruments. Dr. Campbell witnessed in Nepal the performance of a Hindu drama, the orchestra attendant on which comprised upwards of fifty musicians playing a great variety of instruments.

In short, almost every nation possesses its own characteristic bands, and among many nations are to be found various kinds, each being assigned to the occasions for which it is thought most appropriate. Thus, it would be possible to arrange a series of illustrations of concerts in use in different countries at the present day, which would exhibit the orchestra in its different stages of development, from the most primitive, being formed entirely of the rudest pulsatile instruments, to the most refined, in which delicately expressive stringed and wind instruments are predominant.

It will easily be understood that the musical composer might derive essential advantage from an examination of these various combinations of sound-producing means. Berlioz, in his treatise on Instrumentation, evidently entertains the same opinion, for in describing a complete orchestra, as he maintains it ought to be constituted in order to be properly qualified for the production of great Symphonies, and other elaborate compositions, he includes several instruments appertaining to Asiatic nations. Moreover, our classical composers have occasionally with great felicity resorted to the admission of foreign instruments into a score for the purpose of stamping a composition more forcibly with certain characteristic features. Furthermore, in cases where such a proceeding appeared impracticable on account of the obstacles which it might interpose in the execution of the music, they have not unfrequently succeeded in rendering the peculiarities of foreign bands by means of our own usual instruments as happily as the nature of these would

permit. Interesting examples of this kind are the famous dance of the Scythians in Gluck's 'Iphigenia in Tauris,' and the overture of Mozart's 'Die Entführung aus dem Serail.' Opera composers might probably derive valuable suggestions for dramatic effects from an acquaintance with the great variety of extra-European orchestras.

Our art of instrumentation has in a short time undergone modifications so considerable that several instruments to which our grandfathers listened with rapture, have been expelled from the orchestra, and are scarcely known to many of our present musicians. Who now-a-day plays the *viola d'amore*, the *viola da gamba*, or certain other instruments which Sebastian Bach employed in his admirable works? Mozart, not longer than about forty years after Handel had composed the Messiah, deemed it advisable to add to the instrumentation of this immortal oratorio, because Mozart justly concluded that if Handel had scored his work forty years later, he would not have failed to turn to account the progress made in instrumentation. To a similar proceeding some of Gluck's wonderful operas have more recently been subjected. And although some sincere admirers of those masters disapprove of these innovations, either from an amiable reverence for the great classical composers, or perhaps from a less justifiable spirit of conservatism,—the majority of our best musicians are convinced of the desirableness of such reforms, provided the alterations and additions are made by men who are competent to accomplish the task in strict agreement with the spirit of the original composition which they revise.

It is a curious fact that while travellers generally describe the musical bands of foreign nations as being often unpleasantly loud, the nations to whom the bands appertain, express very much the same opinion respecting our instrumental performances. Nay, what appears still more remarkable, a reference to the history of our own music shows that whenever a composer adopted a fuller instrumentation than his predecessors, he was generally sure to incur the censure of sincere critics. Even Mozart did not escape being accused of producing too much noise with the orchestra. Indeed, we possess in our musical literature amusing evidences of the unwarrantable extent to which in matters of taste the power of custom is capable of warping the judgment! Scarcely had the musical taste become reconciled to the instrumentation of Mozart, Beethoven, and Weber, when Spontini horrified the conservatives by employing in his operas an unprecedented power of brass instruments. At the present day the outcry against Spontini's and Meyerbeer's loud instrumentation has been silenced by the monster orchestras of Berlioz, Wagner, and others. Still, it must be evident to an unbiassed judge that in no other branch of the art of music has been



made greater progress during the present century than in the construction and combination of instruments.

A large orchestra is not necessarily louder than a small one; for the degree of loudness produced depends not so much upon the number of the instruments constituting the orchestra, as upon the manner in which they are used together. A simultaneous blending of all the instruments is only occasionally required by the composer who knows how to avail himself of the variety in quality of sound which is at his command for the expression of different emotions. Besides, only a few instruments played together may produce greater harshness than when some others are added. A loud passage in unison for stringed instruments alone is likely to sound more powerful than would be the case with the addition of flutes, or other instruments of a mellow quality of sound. Even the notoriously loud brass instruments are capable of, and are actually in a high degree suited for expressing the most tender musical conceptions. What lover of music has not been enchanted by the soft notes of Oberon's magic horn, and by the exquisitely delicate phrases for trumpets and horns occurring in the Adagio of Weber's overture to Oberon!

It would, however, be erroneous to suppose that extraordinarily large bands are entirely a modern contrivance of highly civilized nations. There are accounts on record of musical performances among nations of antiquity, from which it is evident that the noise of the instruments can scarcely have been less deafening than any which our monster bands are capable of producing. The Hebrews, for instance, had at the solemn dedication of Solomon's temple a large number of performers,—consisting of the Levites, who were singing as well as playing upon various stringed instruments and instruments of percussion; while one hundred and twenty priests were blowing trumpets (II. Chron., v. 12, 13, 14). Nor are such combinations of voices and stunning instruments uncommon with extra-European nations at the present day, especially when some popular festivity invites to public hilarity and exultation. The Negroes in the kingdom of Dahomey, Western Africa, observe in the course of the year certain prescribed rites, at some of which the musical bands employed consist of about fifty trumpeters whose trumpets are made of elephants' tusks, and of about the same number of drummers. But as these bands perform in the open air, they may be less an infliction to a refined ear than smaller ones which are sometimes clamorous indoors, not so far off as Dahomey.

It has been thought unadvisable, as occasioning unnecessary repetitions, to enlarge this essay by detailed accounts of our own instruments

in use at the present day, since some descriptive and historical notices of them are given in the Catalogue, where they are required in examining the exhibited specimens to which they refer. By consulting the Index the reader may easily find any further information respecting the piano-forte, harp, violin, flute, oboe, clarinet, and other instruments at present in popular use.

Imperfect though this essay may be, it will probably have convinced the reader that a reference to the history of the music of different nations elucidates many facts illustrative of our own musical instruments, which to the unprepared observer must appear misty and impenetrable. In truth, it is with this study as with any other scientific pursuit. The unassisted eye sees only faint nebulæ where with the aid of the telescope bright stars are revealed.

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*CATALOGUE.*







## AFRICAN COUNTRIES.



THE principal musical instruments of the modern Egyptians were introduced into Africa by the Arabs. Indeed, most of these instruments are to be found wherever the Mohammedan religion has been established. Besides Egypt, the present collection contains instruments chiefly from Nubia, Sennaar, Kordofan, Eastern Soudan, and from the regions of the Bahrel-Abiad, or White Nile. Several of these specimens are in popular use among the Negro and Kafir tribes in almost every district of Africa.

1757. '69.



STRUM. Bronze frame with four bars loosely inserted. At the top of the frame a representation of a cat. Modern imitation of ancient Egyptian. L. of the instrument  $7\frac{1}{2}$  in.; L. of the longest bar  $6\frac{1}{4}$  in.; of the shortest bar  $5\frac{1}{2}$  in.

The name given to the sistrum by the ancient Egyptians was *sesesh*. The instrument was used in religious performances, and occurs not unfrequently on the Egyptian monuments depicted in the hands of females who were "holy women," or priestesses officiating in the temple. The noise produced by shaking the sistrum was supposed to drive away evil spirits, or to counteract their noxious influence. A similar instrument, called *sanafel*, is still at the present day used for precisely the same purpose by the priests of a Christian sect in Abyssinia.

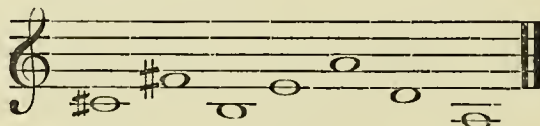
The *sistrum* may properly be classed with the instruments of percussion, having evidently been used for producing a rhythmical accompaniment to sacred songs.

689. '69.

**O**UD. Wood, inlaid with stained woods, mother-of-pearl, and bone; eight tuning pegs. The strings are arranged in four pairs, each pair being tuned in unison, and are usually made of lamb's gut. *Egypt*. Modern. L. 3 ft., W. 1 ft.  $0\frac{1}{2}$  in. (Given by His Highness the Khedive of Egypt.)

The *Oud*, or with the Arab article prefixed to it, *el' oud*, was brought by the Moors to Spain, where it is still known as the *laud*. From Spain it was introduced into other European countries, and experienced various modifications. The French called it *luth*, the Italians *liuto*, the Germans *laute*, and the English *lute*. The *Oud* is generally provided with frets made of cords of gut, which are wound round the neck at fixed distances from each other so as to ensure the intervals according to the musical scale of the Arabs, which contains smaller intervals than our semitones.

The Egyptian *Oud* is usually mounted with fourteen strings, which are tuned in seven unisons, thus :—



The strings are twanged with a plectrum made of the hard portion of an eagle's or vulture's feather, and called *rychet-en-nefer*.

688. '69.

**R**EBAB. Wood, ornamented with perforated brass, &c.; two strings. *Egypt and Barbary States*. Modern. L. 1 ft. 7 in. (Given by His Highness the Khedive of Egypt.)

The *rebab*, an Arab instrument of the violin class, is especially used for accompanying the voice. It was a favourite instrument of the Moors in Spain, where it is still occasionally found amongst the country people, who call it *rabel*, or *arrabel*. In other European countries it was formerly known as *rebebe*, *reberbe*, *rebesbe*, *rubebe*, *rebec*, or by some similar name; and it underwent several modifications in its shape. The



English *rebec*, or *rebeck*, had generally three strings. Moreover the Persians have a three-stringed *rebab*. There are at the present day

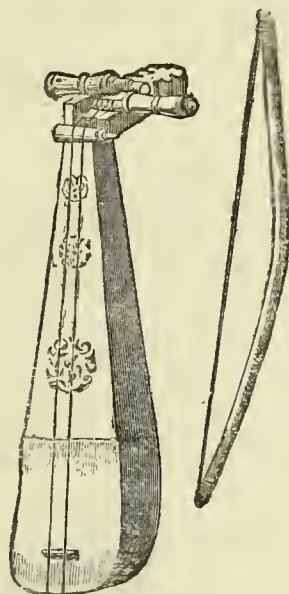


Fig. 108.—REBAB.

several kinds of this instrument in use in the East, materially differing in form and size.

692. '69.

**A**RGHOOL. A kind of double reed pipe, rudely ornamented with a design scratched upon the surface. *Egypt*. Modern. L. 4 ft.  $8\frac{1}{2}$  in. (Given by His Highness the Khedive of Egypt.)

Each tube contains a little vibrating tongue of cane.

The *arghool* is occasionally played by the boatmen on the Nile. One of its reeds, which is much longer than the other, serves as a drone. The Egyptians have three kinds of *arghool*, which are distinguished from each other chiefly by their different sizes, and by the number of movable pieces of reed constituting the tubes.

1561. '71.

**W**HISTLE. Plaster, in the shape of a rudely-formed animal. Used by the children at Cairo. Similar objects are made in Spain. *Egypt*. 1870. L.  $3\frac{7}{8}$  in., H.  $2\frac{5}{8}$  in. (Given by G. J. Chester, Esq.)

678. '69.

**T**ABL Shamee. Small kettle-drum. *Egypt*. Modern. H. 6 in., Diam. 1 ft. 2 in. (Given by His Highness the Khedive of Egypt.)

The name *tabl shamee*, signifying 'Syrian drum,' indicates that this kind of drum was probably introduced into Egypt from Western Asia. It is usually made of tinned copper, with a parchment face.

The Egyptians use the *tabl shamee* especially in bridal processions, and on similar festive occasions. The performer carries it suspended from his neck, and beats it with two slender sticks. The *baz*, also called *tabl el mufahhir*, is a small drum of this kind used by the



Fig. 109.—TABL SHAMEE.

Mufahhir, or crier, who during the nights of Ramadan (the fast annually observed by the Muslims) recites religious and congratulatory sentences before the houses of the wealthier people, for which he receives gratuities. The *baz* is also used by the Dervishes in their

religious dances, called 'Zikrs.' The drummer holds it in the left hand by a little projection in the centre of the back, and beats it with a short leathern strap, or with a stick.

677. '69.

**N**AKRAZAN. Kettle-drums. *Egypt*. Modern. H. 6 in., Diam. 9 in. (Given by His Highness the Khedive of Egypt.)

The Egyptians have several kinds of kettle-drums. The *nakkárah* (in plural, *nakákeer*), is generally used in pairs, especially at religious processions in pilgrimages, and on similar occasions. A pair of these large drums are attached to the fore part of the saddle of a camel, upon which the drummer rides. They are made of copper; and that which is placed on the right side of the performer is somewhat larger than the other. They are beaten with drum-sticks, called *kadábbah*. The *nakrazan* are of middle size. The sound of the Egyptian kettle-drums, although their pitch is to some degree determinable, much partakes of the character of sound of a common drum.

676. '69.

**P**AIR of Drums and Stick. The drums made of skins stretched over earthen vessels, which are pointed at the bottom, and ornamented with rude designs in green. Modern. Larger drum, L. 11 in., Diam.  $6\frac{3}{4}$  in. Smaller drum, L.  $8\frac{1}{2}$  in., Diam.  $4\frac{1}{8}$  in. (Given by His Highness the Khedive of Egypt.)

There are to be found in Egypt, and other districts of North-eastern Africa, drums of various forms made of earthenware, and provided with an elongation by which they are held.

670. '69.

**T**ABL. Drum, formed of skin stretched over a vessel made of clay. Modern. H. 6 in., Diam.  $11\frac{3}{8}$  in. (Given by His Highness the Khedive of Egypt.)



Rudely-constructed drums of this shape are common in different districts of North-eastern Africa. The name *tabl* is applied by the Arab-Egyptians to the drum in general; the common Egyptian drum is called *tabl beledée*.

671. '69.

**T**ABL. Drum, made of earthenware and skin. Modern. H.  $4\frac{1}{2}$  in., Diam.  $7\frac{3}{8}$  in. (Given by His Highness the Khedive of Egypt.)

672. '69.

**T**ABL. Drum, with three holes in its circumference; inlaid with shell. Modern. H.  $8\frac{1}{4}$  in., Diam.  $10\frac{1}{2}$  in. (Given by His Highness the Khedive of Egypt.)

The native tribes of Eastern Africa inhabiting districts south of Egypt have various kinds of drums, made of baked clay, which are used by the Negroes as well as by the Arab descendants.

673. '69.

**D**ARABOUKA. Drum Modern. H.  $6\frac{1}{8}$  in., Diam. 7 in. (Given by His Highness the Khedive of Egypt.)

The *darabouka*, or *darabukkeh*, is a drum having a projection below, which serves as a handle. There are various kinds of the *darabouka*. The present specimen is called in Abyssinia and the neighbouring districts, *kobero*.

675. '69.

**B**AZ. In shape like the kettledrum (*tabl shamee*) depicted on page 144, but made of wood. *Egypt*. Modern. H.  $4\frac{1}{2}$  in., Diam.  $8\frac{3}{4}$  in. (Given by His Highness the Khedive of Egypt.)

663. '69.

**T**ABL. Drum formed of a skin rudely stretched over a hollowed block of wood. Modern. L. 1 ft.  $7\frac{1}{4}$  in., Diam. 1 ft.  $0\frac{3}{4}$  in. (Given by His Highness the Khedive of Egypt.)

Drums of this description are common in different parts of Eastern Africa.

664. '69.

**T**ABL. Drum. Modern. L. 1 ft.  $7\frac{1}{2}$  in., Diam. 10 in. (Given by His Highness the Khedive of Egypt.)

665. '69.

**T**ABL. Drum. Modern. L. 1 ft. 7 in., Diam.  $9\frac{1}{2}$  in. (Given by His Highness the Khedive of Egypt.)

691. '69.

**R**IKK. Small tambourine, rudely constructed of wood and skin; ten pairs of brass plates. Modern. Diam. 8 in., H.  $2\frac{3}{4}$  in. (Given by His Highness the Khedive of Egypt.)

The small tambourine of the Egyptians is generally covered with the skin of the "Bayard," a fish of the genus *Silurus*, which is also used in the *darabouka*. The common tambourine of the Egyptians, called *tár*, is generally about twelve inches in diameter, and its frame is usually inlaid with mother-of-pearl, tortoise-shell, and ivory, or white bone. It has ten pairs of brass plates, circular in shape, loosely attached to the frame by means of wires, of which each pair has one passing through the centre. The parchment is of goat's skin. Different sounds are produced by the performer striking the parchment with his fingers in the middle or towards the edge. Similar tambourines are known in the districts south of Egypt, and in Soudan.

666. '69.

**K**ISSAR. Round body of wood and skin; five strings. Modern. L. 1 ft. 9½ in. (Given by His Highness the Khedive of Egypt.)

The *kissar*, or *kissara*, is to be found in Nubia, Kordofan, Abyffinia, and some other districts of Eastern Africa. The Nubian *kissar* is tuned according to the pentatonic scale,—*i.e.*, the series of intervals which is represented by the black keys of the pianoforte, or by the diatonic scale with the omission of the intervals of the *fourth* and *seventh*. The tones of the Nubian *kissar* are—



The strings are made of the intestines of the camel. They are vibrated with the fingers, and by means of a plectrum, made of a piece



Fig. 110.—NUBIAN KISSAR.



of leather or horn, and fastened with a cord to the instrument. The performer uses the plectrum and his fingers either alternately, or together. The Abyssinians have a ten-stringed instrument of this kind, called *bagana*. The Egyptians called the *kissar* "*Gytârah barbaryeh*," which indicates that they consider it the national instrument of the Barabras, or Berbers, who are supposed to be descendants of the original inhabitants of Egypt. The *kissar* is certainly one of the most ancient stringed instruments known. It is represented on the ancient Egyptian and Assyrian monuments, and was probably also popular among the Hebrews. The Greeks had various kinds of this instrument, more or less differing in form and size, and distinguished by different names, such as *kithara*, *lyra*, *phorminx*, &c.

668. '69.

**K**ISSAR. Round body of wood and skin; five strings. Modern. L. 2 ft. 5 in. (Given by His Highness the Khedive of Egypt.)

669. '69.

**K**ISSAR. Round body of wood and skin; five strings. Modern. L. 2 ft. 6 in. (Given by His Highness the Khedive of Egypt.)

667. '69.

**K**ISSAR. The body square-shaped; five strings. Modern. L. 1 ft. 8½ in. (Given by His Highness the Khedive of Egypt.)

The *kissar* with a square-shaped body is less common than that with a round body.

690. '69.

**N**ANGA. Negro harp, of the Niam-Niams, a tribe in the vicinity of the Bahr-el-Abiad. The body is of hollowed wood covered with skin, and the wooden neck termi-

nates in a carved head with two horns. Five strings of gut, tuning pegs of wood, and two sound-holes in the skin covering the body. L. measured perpendicularly, 3 ft. 6 in. (Given by His Highness the Khedive of Egypt.)

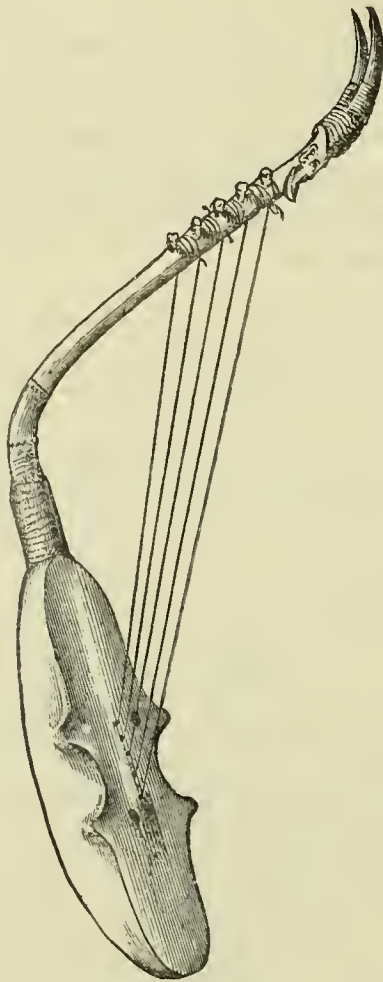


Fig. III.—NANGA; A NEGRO HARP.

In some districts of Eastern Africa this instrument is called *rababah*.

The strings are made of the intestines of the camel, or of the sinews of the legs of the giraffe. The latter kind of strings is especially valued by the Arab settlers in Eastern Africa.

The ancient Egyptians had a small kind of harp which, to judge from the representations, and from the remains of a specimen preserved among the Egyptian antiquities in the British Museum, was in construction, shape, and size, identical with the *nanga*. The Egyptian performer carried it, however, in a peculiar and rather inconvenient manner on his shoulder; and the negro, sitting down, holds it in his lap with the neck upwards.

Turning to Western Africa, we there, likewise, meet with some curious instruments of the harp kind. The *ombi*, a rude harp of the Bakalai, one of the numerous negro tribes near the equator, is made of thin pieces of a resonant wood, covered with leather prepared from the ear of an elephant, or with snake, gazelle, or goat skin. It has only eight strings, cut from the dried root of some tree. The *boulou* of the negroes in Senegambia is constructed of somewhat larger dimensions, has ten strings and long tuning pegs of a peculiar shape. Mungo Park enumerates, among the popular instruments which he saw in Senegambia, the *e-korro*, "a large harp with eighteen strings," and the *simbing*, "a small harp with seven strings." Again, a harp with seven strings, called *bána*, is mentioned as an instrument of the Vei negroes by the missionary S. W. Koelle ('*Outlines of a Grammar of the Vei Language, together with a Vei-English Vocabulary*'). The Vei negroes dwell north of Liberia in Guinea. The name *bania*, given in Senegambia to an instrument of the guitar kind, may, perhaps, be identical with the Vei *bána*, and also with the *banjo*, which appears to be the Senegambian *bania* imported by the negro slaves into America.

274. '72.

**L**OKANGA. Wood; grotesquely carved, painted, and decorated with feathers. The under part of the body coated with reeds (?), held together by lattice-work. Four-stringed. *Madagascar*. 19th century. L. 3 ft. 1 in., W.  $9\frac{3}{4}$  in. (Bought, 1l. 10s.)

The Rev. William Ellis ('*Madagascar Revisited*,' London, 1867), remarks: "I saw an aged minstrel sitting under a sunny bank accompanying a Malagasy song with one of the best-toned *lokangas* I had heard . . . . I have often seen more than a hundred men dragging a single tree past my house keeping time with the *lokanga* played on the way before them, while a young chief has every now and then jumped upon the log, and by shouts and gesticulations urged them on. The *lokanga* is a kind of native guitar."

682. '69.

**N**EGRO Trumpet. Made of the horn of an animal. Modern. L. measured in a straight line, 1 ft.  $5\frac{3}{4}$  in. (Given by His Highness the Khedive of Egypt.)



Trumpets made of the horn of the antelope, gazelle, and of a small species of buffalo, are common in different parts of Africa. The larger instruments of this kind have a far-carrying sound, and are used in the desert to give the alarm among friendly tribes, in case of an attack. Small horns of the antelope, or the gazelle, are carried suspended to a string round the neck, and are blown by the rain-makers to attract or drive away the clouds, at the option of these men. Captain Speke met near the sources of the Nile with a renowned rain-maker who, whenever his attempts to bring down the desired rain proved unsuccessful, told the people that the cause of the delay was their having given him too few presents. Thus the shrewd wizard continued extorting and trumpeting until the rain set in and stayed his exactions.

683. '69

**N**EGRO Trumpet. Made of the horn of an animal.  
Modern. L. 2 ft. (Given by His Highness the Khedive of Egypt.)

684. '69.

**N**EGRO Trumpet. Made of the horn of an animal; the mouth-hole is at the side. Modern. L. 1 ft.  $2\frac{1}{2}$  in. (Given by His Highness the Khedive of Egypt.)

685. '69.

**N**EGRO Trumpet. Made of the horn of an animal.  
Modern. L. 1 ft. 4 in. (Given by His Highness the Khedive of Egypt.)

686. '69.

**N**EGRO Trumpet. Made of the horn of an animal.  
Modern. L. 1 ft.  $4\frac{1}{2}$  in. (Given by His Highness the Khedive of Egypt.)

687. '69.

**N**EGRO Trumpet. Made of the horn of an animal. Modern. L. 2 ft. 8 in. (Given by His Highness the Khedive of Egypt.)

A trumpet of this description is called in Bornu, *magum*; in Timbuctoo *tesínsak*; in Upper Guinea, *búro*; in Abyssinia, *gand*, and *ghenta*. A common name for a trumpet in Abyssinia, and neighbouring districts, is *malakat*.

679. '69.

**N**EGRO Trumpet. Ivory. Modern. L. 1 ft. 7½ in. (Given by His Highness the Khedive of Egypt.)



Fig. 112.—NEGRO IVORY TRUMPET.

This is a popular instrument in Senegambia and Guinea as well as in Central and Eastern Africa. The tusk of the elephant is carefully hollowed, and a mouth-hole is cut in the inner side towards the narrow end. Some of these trumpets are of enormous size, and of great power of sound. The negroes in Upper Guinea not unfrequently colour the ivory with a matter said to be a preparation of the blood of fowls, or sheep. Also other modes of embellishing this trumpet are resorted to, such as carving, affixing bones of slain enemies, &c. The ivory trumpet is known by different names. In Angola it is called *ponga*, or *apunga*; in Congo, *embuchi*; and by the Ibos, a negro tribe in Upper Guinea, *oukpwé*. In Ashantee, and some other districts of North-western Africa, every chief has his trumpeter, who announces the approach of his lord by a special signal, which has a meaning well-known to the people. For instance, the signal of one chief means "I am a great king's son;" that of another, "No one dares trouble me," and so on. When Bowdich visited Ashantee, the flourish blown by the king's trumpeters was interpreted to him as proclaiming the sentence "I pass all kings in the world."

680. '69.

**N**EGRO Trumpet. Ivory. From the regions of the White Nile. Modern. L. (measured from end to end) 5 ft.  $0\frac{3}{4}$  in. (Given by His Highness the Khedive of Egypt.)

The large ivory trumpet is used by the Niam-Niams, and other negro tribes, for transmitting signals in time of war.

681. '69.

**N**EGRO Trumpet. Made of the tusk of an animal, and covered with skin. Modern. L. 1 ft. 11 in. (Given by His Highness the Khedive of Egypt.)

1080. '68.

**M**ARIMBA, or Balafu. *West Coast of Africa*. Modern. L. 3 ft. 2 in. Greatest W. 1 ft.  $6\frac{1}{2}$  in. Smallest W. 1 ft.  $1\frac{1}{2}$  in. Depth 6 in. With it are two sticks with knobs

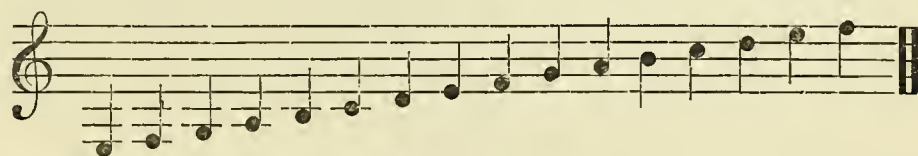


of caoutchouc, resembling drumsticks. L. of the sticks 1 ft.  $0\frac{1}{2}$  in. The performer carries the instrument over his shoulders by means of a strip of cloth. The gourds suspended under the flabs serve as a sound-board. (Given by Lieutenant McEuen, R.N.)



Fig. 113.—MARIMBA. Africa.

The tones produced by striking the wooden flabs are—



Major Laing, in describing the ceremonies of lamentation which he witnessed the negroes of Kooranko, east of Sierra Leone, observing on the death of a chief, and in which the people performed vocal and instrumental music during a whole night, says that at daybreak he was awakened by “the deep tones of a large Balafu, which resounded through the still morning air in a manner truly solemn.”

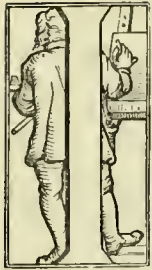
**M**ARIMBA. *South-eastern Africa.* Modern. L. 3 ft. 6 in.,  
B. about 1 ft. 8 in. (Given by Captain J. Stuart.)  
Deposited in the Educational Department.

The instrument has twelve slabs of a sonorous wood, beneath which are fastened, by means of a dark-coloured cement, twelve gourds, to increase the sound. In each gourd are two holes, one of which is at the top, and the other at the side. The latter is covered with a delicate film, to promote the sonoroufness. Several African travellers have noticed this curious acoustic contrivance. Du Chaillu says that the film consists of the skin of a spider; Livingstone mentions spiders' web being applied to instruments of this kind used by certain native tribes in Southern Africa. The *marimba* is a favourite instrument of the Negroes as well as of the Kafirs.

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## ASIATIC COUNTRIES.



IN Asia Minor, and other districts of Western Asia, we find the Arab instruments, which are mostly derived originally from Persia. The Hindus possess several of these, besides many which they already had before the Arab conquests. The Burmese and Siamese have some peculiar instruments which resemble those popular among the natives of the Indian Archipelago. The Chinese and Japanese instruments bear a remarkable resemblance to each other, not only in construction, but in several instances also in name.

936. '69.



**Q**JUK. A kind of guitar with five strings of thin wire. Wood, inlaid with coloured woods, gold, and ivory mosaics, the surface of the body consisting of a thin parchment resembling bladder. *Persia* (*Shiraz*). Modern. L. 3 ft., W. 8 in. (Bought, Paris Exhibition, 1867, 9*l.* 12*s.*)

This instrument is also called *qitar*.

939. '73.

**K**EMANGEH. Three-stringed; played with a bow. With designs in gold on a green ground. *Persia*. About 1800. L. 3 ft.  $\frac{1}{2}$  in., Diam. 8 in. (Given by Sir F. Gore Ouseley.)



The Persian *kemangeh* (or *kamooncheh*) is described by Sir William Ouseley ('Travels in various Countries of the East, more particularly Persia,' London, 1819) as follows:—"The *kemangeh*, found in almost every town, afforded me frequent entertainment. That which I first saw was in the hands of Mohammed Carabághi, a poor fellow who sometimes visited our camp. His *kemangeh*, made at Shiraz, was of *tut* or mulberry-tree wood; the body, about eight inches in diameter, globular, except at the upper part, over which was stretched and fixed by glue a covering of parchment. It had three strings of twisted sheep-gut, and a bridge placed obliquely. A straight piece of iron strengthened the whole instrument from the knob below through the neck to the hollow which received the three pegs. It was carried hanging from the shoulder by a leathern strap. Its length was nearly three feet from the wooden ball at the top to the iron knob or button which rested on the ground. The bow was a mere switch, about two feet and a half long, to which was fastened at one end some black horsehair; at the other end this hair was connected, by a brass ring, with a piece of leather seven or eight inches long. The ring was managed with the second and third finger of the performer's right hand, and by its means he contracted or relaxed the bow, which was occasionally rubbed on a bit of wax or rosin stuck above the pegs. The performer generally combines his voice with the tones of this instrument . . . . The *kemangeh* is of various materials. I have seen one, of which the body was merely a hollow gourd; and another, of which every part was richly inlaid and ornamented. 'Some,' says Abdalcader [the author of an old Treatise on Persian music, written in the year 1418], 'form the body of the *kemangeh* from the shell of a cocoa-nut, fixing on it hair-strings; but many, from wood, over which they fasten filken strings.' By another writer, the *tut* or mulberry wood is recommended as best adapted to the filken strings, from a supposed sympathy between that tree and the produce of those insects which feed on its leaves; it is, however, in many respects the fittest, and therefore most generally used for the body of the *kemangeh*. Sometimes the body is made of the *girdú* or walnut-tree wood."

940. '73.

**K**EMANGEH. Three-stringed. Played with a bow. With designs in gold on a green ground. Parchment belly. *Persia*. About 1800. L. 2 ft.  $6\frac{3}{4}$  in., Diam.  $7\frac{3}{4}$  in. (Given by Sir F. Gore Ouseley.)

927. '69.

**C**HABBABEH. A kind of flageolet, with seven finger-holes above and one below. Black wood, turned. *Persia*. Modern. L. 1 ft.  $1\frac{3}{4}$  in. - (Bought, Paris Exhibition, 1867, 12s.)

The Persians and Arabs have about ten kinds of flutes, called *nay*, *i.e.*, "a reed," because they were originally made of reed; and they have several instruments of the flageolet species, called *souffârah*.

1606. '72.

**V**INA. A black wooden bar, with wire strings, supported on movable bridges. Two empty gourds affixed under the bar. *India (Bombay)*. L. 4 ft. 2 in., H. 1 ft. 5 in. (Bought from the Annual International Exhibition, 1872, 4l.)

Most of the bridges are missing, likewise some of the tuning pegs, of which there were originally four for the strings passing over the bridges, and three for the strings passing by the side of the finger-board.

Some account of the *vina* has been given in the preceding essay on the history of musical instruments, p. 56.

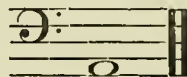
There are several specimens of the *vina* popular in different districts of Hindustan, such as the *vina* of Delhi, the *vina* of Benares, &c. Some of these bear but little resemblance with the present species, which is supposed to be the oldest, and is certainly the most simple in construction. Although by way of distinction designated as the *vina* of Bengal, it is popular all over India. Allusion is made to it in the ancient classical literature of the Hindus; there are old delineations of it extant in painting and sculpture; and popular tradition assigns to it a divine origin. It is also called *been*, but the latter name applies more properly to the *vina* of Benares, which appears to be an offspring of, and an improvement upon the present one.

The *vina* is made of various sizes, and is provided with a greater or smaller number of frets or bridges. Most commonly it is about three feet and a half in length, and has nineteen frets made of brass. Two large gourds, measuring above twelve inches in diameter, are appended to the instrument, each about ten inches distant from either end. They

are cut open at the bottom, the hole being round and about five inches in diameter. The finger-board is about two inches wide. The strings, seven in number, are of thin wire, and are stretched by means of seven large tuning pegs situated towards the upper end of the instrument. Only four of the strings run over the finger-board. These are of brass wire. The other strings consist of one of brass wire, which is on the left side of the finger-board; and two of steel wire, which are on the right side of the finger-board. The two last mentioned are placed close together, and are tuned in octaves. The strings which run at the side of the finger-board cannot be shortened by the player, as they are beyond the frets. The strings are tuned in the following intervals:—



The frets are about an inch high. They are fastened with wax, and the performer alters their position whenever he wishes to play in another mode or scale than that according to which he finds them regulated. In playing, the *vina* is held obliquely across the breast, with one of the gourds over the left shoulder and the other under the right arm, as shown in the illustration fig. 46. The frets are stopped with the left hand, and the first and second fingers principally are used. Of the four strings running over the finger-board, only the first and second (counting from the right) are, as a general rule, thus treated; the third and fourth being seldom sounded otherwise than as an open string. The performer occasionally uses the little finger of his left hand to strike the brass string—

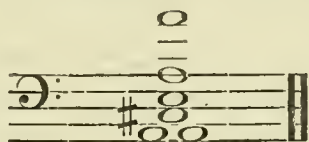


situated at the left side of the finger-board. He rarely makes use of the third finger of his left hand for stopping the frets. However, a skilful player can shift his hand up and down the finger-board with great dexterity.

The right hand is used for twanging the strings. For this purpose the first and second fingers of the performer's right hand are provided each with a little plectrum, made of wire, or of the large scales of a fish, and fastened on with springs, or tied down with thread; which is put on the end of the finger like a thimble. The two fingers supplied with plectra strike the strings which are on the finger-board; the third finger is not used at all; the little finger strikes the two strings on the right side of the finger-board.



The order of intervals in which the seven strings of the *vina* are tuned is too peculiar to be left unnoticed. It will be observed that six of the open strings produce together the common chord of A-major—



The Hindus are generally supposed to be devoid of susceptibility for harmony in music. But the performers on the *vina* must often have been impressed with this concord, and they must have appreciated its effect, otherwise they would hardly have adopted it on their favourite instrument.

Although, as far as may be gathered from an examination of the specimens of the *vina* sent to England, it is difficult to endorse the expressions of admiration for the instrument by some writers on Hindu music, it is only proper they should not be entirely ignored here. Captain Augustus Willard ('A Treatise on the Music of Hindoostan,' Calcutta, 1834, p. 85) remarks:—"It is an instrument of the greatest capacity and power, and a really superior *vina* in the hands of an expert performer is perhaps little inferior to a fine-toned pianoforte; and indeed for Hindoostanee music the best devised, and calculated to be adapted to all practical modifications. Although the *vina* has a finger board and frets, it is not strictly confined in its intonation, as a guitar or pianoforte or an organ is, for it is so delicate an instrument that the slightest difference in the pressure of the finger, or of its distance from the frets, will cause a sensible variation in the tone, of which a good performer avails himself. Hence results that beautiful nicety of just intonation in every mode, which charms the musical ear." Again, Colonel Meadows Taylor ('Proceedings of the Royal Irish Academy,' Dublin, 1864, p. 114) calls the *vina* "an instrument of much power and sweetness," and remarks:—"To hear so as to understand any really classical Hindu music, it should be played upon this instrument; and I have occasionally met with some very learned and accomplished performers, principally from Myfore and the south of India."

1. '68.

**T**AMBOURA. The body made of a gourd; four tuning pegs. *India*. Modern. L. 4 ft. 2½ in., W. 1 ft. 1½ in. (Given by Mr. W. Carpenter.)

The *tamboura* or *tanbour* is to be found in Persia, Asiatic Turkey, and Egypt, as well as in Hindustan. Its strings are of wire, and are vibrated by means of a plectrum made of tortoiseshell, or of a vulture's feather, or some other suitable substance. Its neck is very long, and its body is often beautifully ornamented. The Hindu *tamboura* is generally formed of a large gourd, which is lacquered, and has tasteful designs in gold and rich colours. It is displayed in the rooms of the wealthier classes.

The *tamboura* was known to the Assyrians and Egyptians about three thousand years ago. The Egyptians called it *nofre*,—a name which through the language of the Copts has been ascertained to be identical with *nebel*. The Hebrews had evidently several species of *nebel*; for one species is distinguished in the Biblical records by the name of *nebel asor*, implying a ten-stringed instrument. However, it would be hazardous to assume that the *nebel* must have been a *tamboura* because of the identity of the name *nebel* and *nofre*.

1614. '72.

**J**ANTAR. A rude stringed instrument, consisting of a wooden frame fitted on an empty gourd. Two tuning-pegs. Three frets, rudely cut, near the upper end of the neck. *India (Bombay)*. L. 1 ft. 11 $\frac{1}{4}$  in., H. 8 in. (Bought from the Annual International Exhibition, 1872, 5s.)

The *jantar* is identical with the *tzetze* of Zanzibar and the *herraou* of Madagascar, but it has two strings, while the *tzetze* and *herraou* are one-stringed.

1621. '72.

**E**KULTARA. Bamboo shaft fitted into an empty gourd. One-stringed. *India (Bombay)*. L. 3 ft. 6 in., Diam. of gourd, 10 $\frac{1}{2}$  in. (Bought from the Annual International Exhibition, 1872, 10s.)

Used by wandering beggars called *waghrees*, who, begging their bread from door to door, invoke blessings on the head of the house, and accompany their words with a touch of the string.

1620. '72.

**T**OONTONEE. Wooden vessel, bucket-shaped, and painted, to which is fitted a tube of wood. One-stringed. *India (Madras)*. H. 2 ft. 4½ in., Diam. of vessel, 7½ in. (Bought from the Annual International Exhibition, 1872, 10s.)

The *toontonee*, an instrument peculiar to the Hindus, is used by the mendicants and common ballad singers in the Deccan, who accompany their recitations with the single tone which only it is capable of producing. They twang the solitary string of thin steel wire with which it is strung with the finger or with a plectrum, being a quill, or a piece of bone or ivory. The body of the *toontonee* is of wood, with the exception of the bottom, which is of prepared skin. The top of the body is open. The neck is either a stick or a wooden tube, having a tuning-peg at the upper end. The string runs from the tuning-peg through the body, or cylinder, as it may more properly be called, through a hole in the middle of the bottom, under which it is fastened by means of a small piece of cloth or leather, which prevents its being drawn back through the hole when the tuning-peg is turned for the purpose of tightening the string. The Hindu ballad-singer or beggar, as the case may be, fastens the *toontonee* before his breast, with the piece of thick and rough cord which is generally affixed to the cylinder, and which at the same time serves to attach the stick constituting the neck to the lower portion of the instrument. He strikes the string rapidly to obtain as much as possible a sustained tone. This tone serves as the fundamental note or the Tonic to the tune or recitation of the singer. By means of the tuning-peg he can, of course, easily screw it to any pitch convenient for his vocal effusions. The *toontonee* exhibits an acoustic phenomenon, which although it may be observed on several other musical instruments, appears on this one especially remarkable. On the string being vibrated, and the instrument waved in different directions before the hearer, the pitch of sound is lowered or raised according to the more or less degree in which the open part of the cylinder is turned towards him, and the vibration of the air in it is consequently interfered with. It does not, however, appear that the Hindu musicians make use of this peculiarity of the *toontonee*, and it could hardly be of interest in an æsthetic point of view. But the sonorous and agreeable quality of sound produced by means of the string vibrating the column of air in the cylinder with its parchment



bottom might suggest the construction of a superior instrument with a number of strings manufactured on the same principle as the *toontoonee*.

1627. '72.

**K**EMANGEH (or Kamancha). The body of wood, ribbed and collared with bone inlaid in black; the belly covered with skin. Three catgut strings and seven sympathetic wire strings. *India (Kashmeer)*. L. 3 ft. 5½ in., Diam. 10 in. (Bought from the Annual International Exhibition, 1872, 1l. 10s.)

The bow belonging to it is missing.

1624. '72.

**C**HIKARAH. Stringed instrument played with a bow. Wood; the belly covered with skin. Three catgut strings and nine sympathetic wire strings beneath them. *India (Oudh)*. L. of instrument, 1 ft. 9 in., L. of bow, 1 ft. 8¾ in. (Bought from the Annual International Exhibition, 1872, 1l.)

397. '71.

**S**ARINDA. Bengalese violin. Wood; the surface carved with a design, and the upper part terminating in a rudely-formed bird. Three strings. *India*. 18th century. L. 24¾ in., W. 8¾ in. (Bought, 4l.)

937. '73.

**S**ARINDA. Bengalese violin. *India*. L. 2 ft. 5 in., Diam. 5 in. (Given by Sir F. Gore Ouseley.)

1609. '72.

**A**LGOOJA. Flageolet. Brown wood. *India (Tanjore)*. L. 8½ in. (Bought from the Annual International Exhibition, 1872, 1s. 6d.)

The Hindus have a variety of wooden pipes constructed like our flageolet, some of which have only four finger-holes placed towards the further end. A small species, the *banfee* or *banfulee*, is considered the favourite instrument of the god Krishna, who is often represented playing it. J. Tod ('Annals and Antiquities of Rajast'han,' London, 1829, vol. i. p. 538) remarks: "As Muralidhara, or 'The Flute-holder,' Kaniya, is the god of music, and in giving him the shepherd's reed instead of the *vina*, or lyre, we may conjecture that the simple bamboo (*bhans*) which formed the first flute (*bhanfli*) was in use before the *chatara*, the Grecian kithara, the first invented lyre of Apollo." Krishna is often represented playing upon a flute with a mouth-hole at the side like the German flute. This appears to be an innovation adopted by the artists. The flute of Krishna was blown at the end, probably originally without any plug.

1613. '72.

**B**ANSEE, also called Banfree. Flute. Wood painted with quatrefoil ornament in various colours. *India (Bombay)*. L. 1 ft.  $2\frac{3}{4}$  in. (Bought from the Annual International Exhibition, 1872, 15.)

The *banfee* is used in many of the Hindu ceremonies. Balt. Solvyns ('The Costume of Hindustan,' London, 1804) says that it is played especially at the feast of Nila-Pooja, "when the bigots at that ceremony run sharp pointed iron rods through their tongues, and through the muscular part of their breast, through the back, the arm, the skin of the forehead, &c., and when they are dancing with stretched cords passed through the integuments of the sides in the manner of fetons." In Ceylon, wild elephants when captured are tamed by means of the *banfee*. Sir J. Emerson Tennent ('The Wild Elephant,' London, 1867, p. 141) remarks: "The mellow notes of a Kandyan ivory flute, which was played at a distance, had a striking effect upon one or more of them; they turned their heads in the direction from which the music came, expanded their broad ears, and were evidently soothed by the plaintive sounds . . . On looking to the graphic description which is given by Aelian of the exploits which he witnessed as performed by the elephants exhibited at Rome, it is remarkable how very large a share of their training appears to have been ascribed to the employment of music. Phile, in the account which he has given of the elephant's fondness for music, would almost seem to have verified the prose narrative of Aelian."

1625. '72.

**P**OONGI. A spherical gourd with a horn mouth-piece, and with two tubes of bamboo. *India (Madras)*. L. 1 ft. 5 in. Diam. of gourd  $4\frac{1}{2}$  in. (Bought from the Annual International Exhibition, 1872, 5s.)

The *poongi*, also called *toomerie*, *magoudi*, and *papanasem-magoudi*, consists of a hollowed gourd into which two pipes are inserted and tightly fastened by means of wax or some black resinous substance. Inside the gourd are two vibrating *reeds* fastened to the ends of the two pipes. These *reeds* are made by incisions into two small tubes, exactly in the same way in which the vibrating tongues of the Arabian *arghool* are cut. To keep the vibrating tongues slightly raised, one or two hairs are drawn under them. The performer blows into the single tube which is opposite to the tubes with finger-holes. One of the tubes has generally seven open finger-holes; on the other, which is a drone, most of the finger-holes are generally stopped with wax. The holes serve for altering the pitch of the drone if required. As a rule, the drone is in unison with the tone emitted by the tube with open finger-holes if all are uncovered. The *poongi* is capable of producing about nine different tones. Simple plaintive airs are played upon it. The instrument is never used in combination with others, except with the drum; in fact, it belongs almost exclusively to the Sampuris or snake charmers, and to the professional jugglers and acrobats of Hindustan.

Sir William Ouseley ('Oriental Collections,' London, 1797) calls the *poongi* "Toomerie," and says that by the latter name it is commonly known in the Deccan, where it is not unfrequently constructed of a Cuddos nut, instead of a gourd. It would, however, appear that the name *toomerie* is usually given to a species of *poongi* which is sounded by the breath through one of the nostrils instead of the mouth. In Hindustan the use of the nose flute originated in the religious doctrine of the Brahmins that a person of superior caste is defiled by touching with his mouth anything which has been touched by the mouth of an inferior. But is it really the case that serpents can be enticed by the sound of the *poongi*? The statements of several observers, who may be relied upon, leave hardly any doubt about it. The fact appears all the more inexplicable since the peculiar quality of the sound of the *poongi* is by no means enticing; perhaps the serpents mistake it for the quacking of ducklings for which they may have a taste.

Colonel Meadows Taylor ('Proceedings of the Royal Irish Academy,' vol. ix., Dublin, 1865) says: "By the snake charmers a few notes



only are played, which seemed to have the effect of rousing the snakes to be exhibited, usually Cobra di Capellos, to action; and as the reptiles raise themselves on their tails, expand their hoods, and wave themselves to and fro, the player becomes more excited, while the motion of the snakes is accelerated by the rapidity of the music. So also in feats of jugglery or sleight of hand, the *poongi*, accompanied by a small drum, seems to assist the performer, especially when throwing knives or balls into the air, catching them in succession, and throwing them up again. I think there is no doubt that the tones of this instrument have an effect upon all snakes, especially cobras, though this is denied by many. As an instance of this, I may mention that one very large cobra, which frequented my garden at Ellichpoor, and of which everyone was in dread, was caught by some professional snake-charmers in my presence by means of the *poongi*. It was played at first very softly before the aloe bush, underneath which the snake lived in a hole; gradually the performer increased the tone and time of his playing, and as the snake showed its head he retreated gently till it was fairly outside, and erected itself in a defiant manner. At that moment another man stepped dexterously behind, and while the snake's attention was absorbed by the player, threw a heavy blanket upon it, seizing it by the head under the jaws. The head was then pinned down by a forked stick, and the fangs and teeth extracted by strong pincers. The snake was then turned loose, apparently completely cowed and exhausted, and finally transferred to a basket for education as a performer. There was no mistake as to the identity of the reptile, for a portion of its tail had been shot off in an attempt to destroy it. The same men afterwards drew snakes from the thatch of my house, all of which seem to obey the fascination of the *poongi*."

The susceptibility of snakes for musical sounds appears all the more singular considering that they have no ears, at least no external auditory organ. But they have some internal structure serving for the purpose of hearing. Such an ear does not indicate the enjoyment of an acute sense of hearing. Perhaps, if it were otherwise, snakes would not be fascinated by the sound of the *poongi*.

15. '52.

**Z**OURNA. A kind of oboe. Painted wood, with seven finger-holes above, and one below. The *zourna* has usually a mouthpiece, consisting of a brass tube, on which a reed

is stuck. *India*. Modern. L.  $10\frac{3}{4}$  in., Diam. 3 in. (Bought, Exhibition of 1851, 5s.)

1622. '72.

**T**OOMERIE Nagassaran. Dark wood; brass mounted. Twelve finger-holes. *India (Madras)*. L. 1 ft.  $8\frac{1}{2}$  in., Diam. of bell,  $3\frac{2}{8}$  in. (Bought from the Annual International Exhibition, 1872, 15s.)

In no other country are instruments of the oboe family so numerous as in Hindustan. They are distinguished from each other by different names, such as *zourna* (or *surnū'-e*), *shena* (or *shanū-i*), *ottu*, *nagassaran*, *mukha*, *mukhavinai*, &c. Most of these varieties, popular in different parts of Hindustan, are distinguished from each other chiefly by their size, and the number of their finger-holes. On the *toomerie nagassaran* eight finger-holes are placed in a row, and two on either side of them.

1623. '72.

**H**ANUMUNTA Ottu. Hard wooden tube; partly covered with leather; the bell of brass, ornamented with a ring of carved cobras. *India (Madras)*. L. 2 ft.  $\frac{1}{2}$  in., Diam. of bell  $3\frac{1}{2}$  in. (Bought from the Annual International Exhibition, 1872, 1l.)

The *hanumunta ottu*, a Hindu oboe, resembling the *zourna*, has but two finger-holes placed opposite to each other near the lower end of the tube. These holes are generally stopped with plugs of cotton, so that the instrument produces only a single tone, which, however, may be altered in pitch by removing the plugs. The Hindus have different kinds of the *ottu*, which are used as drones, called *holar cha soor*, in combination with other instruments of the oboe family. The drone being sustained without intermission has the effect of the drone of a bagpipe. The *ottu* can be tuned to any key which the leading instruments require by altering the position of the mouthpiece or reed.

1617. '72.

**P**ANCHAMA Ottu. Brass; gadroons on bell. *India (Madras)*. L. 2 ft.  $1\frac{1}{2}$  in., Diam. of bell  $3\frac{7}{8}$  in. (Bought from the Annual International Exhibition, 1872, 12s.)

The *panchama ottu* is a small straight trumpet entirely of one piece. Precisely the same instrument, but of a large size, is the *kurna*, popular with the Hindus.

1633. '72.

**S**INGEE. An instrument of the trumpet kind. Made from a twisted goat's horn. *India (Oudh)*. L. 8 in. (Given by the Indian Department of the Annual International Exhibition, 1872.)

This instrument is used by Hindu Fakirs, Mahommedan monks and hermits. The *singee* of Nepal is made entirely of copper, and is composed of four pieces, which when put together give it the shape of a cow's horn. Moreover, a brass horn called *seeng* is universal throughout Hindustan, and is especially used by the lower castes of people. Not only in the towns, but in every village of Central and Southern India it is the function of the watchmen to blow the *seeng* at sunset, and again during the night when they go their stated rounds.

1619. '72.

**T**ARAI. Trumpet. Brass. *India (Madras)*. L. 9 ft.  $3\frac{1}{2}$  in., Diam. of bell  $4\frac{1}{2}$  in. (Bought from the Annual International Exhibition, 1872, 2l. 2s.)

It is an old custom with the pious Hindus to blow upon the *tarai* at the interment or cremation of their dead, and likewise when they offer viands and other oblations to their defunct. The *tarai* is also called *tooree*.

1607. '72.

**R**AMSINGA, or Komboo. Brass trumpet. Serpentine. *India (Madras)*. L. 3 ft. 8 in., W. of bell  $7\frac{1}{2}$  in. (Bought from the Annual International Exhibition, 1872, 1l. 2s. 6d.)

The shape of the *ramsinga* closely resembles that of the ancient Scandinavian *lure*. In Nepal this trumpet, or rather horn, is called *nursingh*, and also *kamfa*. It is often made of a large size. Sturdy lungs



are required to produce its full tone ; hence it is less frequently met with among the inhabitants of the flat countries of Hindustan than among the robust dwellers in mountainous districts. In Nepaul it is sometimes embellished with designs in a red colour.

1612. '72.

**S**URYAPRABAI. Tambourine ; stretched on a circular iron hoop, with curved handle. *India (Madras)*. Diam.  $9\frac{1}{4}$  in. (Bought from the Annual International Exhibition, 1872, 10s.)

The common drums of the tambourine kind popular in Hindustan are the *dayra*, *duff*, *duffdé*, *do*, *hulkya*, &c. The Hindus in beating these instruments generally use little sticks as well as the hands. The *dayra* consists of a circular frame, either of wood or of metal, covered with parchment. It is generally about twelve inches in diameter. The performer thrusts the thumb of his left hand into a noose which passes through a hole in the frame ; and having thus a support for his right hand, which he places somewhat above the centre of the instrument, he presses the knuckle of his middle finger on the inside whenever he wishes to produce a higher pitch of sound. The Hindu *duff* is generally an octagonal frame of wood, about three feet in diameter and six inches in depth, covered on one side with parchment. It has on the other side a net-work of thin strips of leather affixed for the purpose of counteracting the stress of the parchment. It is usually struck with the fingers of the right hand, and occasionally with a rather long switch, which the performer holds perpendicularly over the instrument between the fore finger and middle finger of his left hand.

1615. '72.

**T**AL, or Jalar. Two little cymbals of white copper, with connecting cord. *India (Bombay)*. Diam.  $2\frac{1}{4}$  in. (Bought from the Annual International Exhibition, 1872, 5s.)

In Hindustan we meet with cymbals varying in size from that of a tea-cup to the dimensions of a washing basin. They are made of mixed metals, the chief of which is denominated *Phúlia*, and is composed of zinc, copper, and tin, in various proportions according to the

tone intended for the cymbal. The smallest cymbals, called *munjeera*, are in the form of two cups. They are struck together outside, inside, and upon their edges, in order to produce rhythmical sounds in accordance with the vocal or instrumental music which they accompany. Other cymbals common in Hindustan are called *jhanj*. Some of these are rather large, and emit a sound more like that of a gong than like the tinkling and clicking peculiar to the small ones. The Hindus, especially in the northern districts of India, very frequently introduce cymbals into religious ceremonies. At solemn processions in honour of the gods, as well as at marriage celebrations, at feasting, and on like occasions, the *jhanj* are considered by many almost indispensable.

The name *tal* given to the present cymbals alludes probably to their gong-like shape. At any rate, *thalla* is the common name for the gong in Hindustan, which is made of various sizes.

1611. '72.

**K**URTAR. Castanets; a pair. Hard wood with carved foliage border. With bells. *India (Madras)*. L. 7 in. (Bought from the Annual International Exhibition, 1872, 2s. 6d.)

1616. '72.

**C**HEEPLAYO. Two wooden staves, rudely carved, holding each four brass discs, suspended. *India (Bombay)*. L. 11 in., Diam. of disc  $2\frac{3}{4}$  in. (Bought from the Annual International Exhibition, 1872, 15s.)

1626. '72.

**C**HEEPLAYO. Two. Wooden handles, holding each six brass discs, suspended, and bells. *India (Madras)*. L. 10 in. (Bought from the Annual International Exhibition, 1872, 7s. 6d.)

Two are held between the thumb and the fingers of each hand, and clashed together. Hindu devotees use them.

1610. '72.

**M**URCHANG. Iron. *India (Oudh)*. L.  $5\frac{3}{4}$  in.  
(Bought from the Annual International Exhibition, 1872, 1s. 6d.)

The *murchang*, or simply called *chang* ("harp") is made of different forms and sizes. It is nearly identical with the European Jew's harp. The tongue generally projects behind the bow in a strong steel spike, by which the instrument is held firmly to the mouth. In Cutch it is not unfrequently accompanied by a small drum, or by cymbals, to mark the time. The *murchang* is also common in Thibet, and in Burmah. The Chinese *keou-kin* is very similar to the *murchang*. The term *keou* means mouth, and *kin* is the name of a Chinese stringed instrument more resembling the dulcimer than the harp. The designation of *keou-kin* therefore, is rather "mouth-dulcimer" than "mouth-harp." The Chinese regard the *keou-kin* as being of high antiquity; but they thus regard any of their instruments the origin of which is unknown to them. Considering how widely the Jew's harp is diffused over Asia, it appears not probable that it was originally introduced from Europe. There is hardly any musical instrument extant which Asiatic nations have adopted from Europe; while, on the other hand, many of our instruments are evidently of Asiatic origin.

The natives of New Guinea construct a sort of Jew's harp of bamboo, called *darubiri*, and a similar instrument has been found among the natives of New Ireland. Furthermore, the natives of the Island of Timor, the Macassars in Celebes, the Dyaks in Borneo, the Marianne Islanders, and the Battahs in Sumatra, possess contrivances of their own invention, which may be classed with the Jew's harp.

The common Crembalum (English, *Jew's harp*, *Jew's trump*; French, *guimbarde*, *rebute*, *trompe*; Italian, *spassa-penziero*, *tromba*; German, *maultrommel*, *brummeisen*; Dutch, *mondtrommel*; Danish, *mundharpe*; Swedish, *mungiga*; Polish, *dremła*), although generally a mere plaything for children, is capable of producing charming effects, and there have been several accomplished performers on it, whose execution elicited the admiration of musicians of refined taste. Its English name is perhaps a corruption of jaw's-harp, because it is held between the teeth when played upon. The instrument is, however, in Germany also known by the designation of *Fudenharfe*. As it was called in England in olden time "Jew's trump," and as it was evidently regarded as a mere toy, the term *Jew* may be a corruption of the French *jeu*, a *jeu-trompe* implying a toy-trumpet.



Howbeit, the astonishing performances by Koch, Eulenstein, Scheibler, and others, have done much to raise the instrument in the estimation of lovers of music. Koch's proficiency on the instrument became first known when he was a common soldier in Magdeburg, about the year 1785. One of his most admired performances consisted of a kind of descriptive music, depicting a funeral procession with the tolling of bells, into which he introduced a popular old German dirge, so that it was heard first as sounding from a long distance, and then as if a chorus of mourners gradually approached and passed by. Another remarkable performer, Eulenstein, a native of Wirtemberg, came in the beginning of the present century to London, where he played in public concerts.

With the fundamental tone any of the tones can be made distinctly audible on the Jew's harp which are producible on the simple tube of a trumpet, or the harmonics softly sounding with the fundamental tone of a vibrating string. This is achieved by modifying the cavity of the mouth, and consequently the air which it encloses. Thus the intervals constituting the major chord are easily obtainable; likewise the interval of the minor seventh, which is, however, somewhat too flat. Owing to the absence of the minor third of the fundamental tone, compositions in a minor key are not so well suited for the instrument as those in a major key. To remedy this imperfection, and also to obtain the tones required for modulations into various other keys, accomplished performers have resorted to the expedient of using two or more Jew's harps in combination, each having a fundamental tone of its own, and consequently different harmonics. Such a combination is called *aura*. Scheibler of Crefeld in Germany, in the beginning of the present century, affixed as many as twenty Jew's harps of different pitch on a disc, with their round ends towards the centre, so that the tongues diverged like rays. His skilful performance on the *aura* is said to have produced a magic effect upon a large audience in a concert room.

395. '71.

**M**EGYOUNG. Wood; in the form of an alligator, with carved head, feet, and conventional ornament. Three strings. The tuning pegs are not the original ones. *Burmah*. 18th century. L. 4 ft.  $3\frac{1}{2}$  in., W. 6 in. Bought, 8/.

The *megyoung* or *megoum*, a favourite stringed instrument of the Burmese, is also found in Siam, where it is called *tuk-kay*, meaning "The Lizard."

1618. '72.

**M**EGYOUNG. Wood; in the form of an alligator. Coloured red, and gilt, with glass eyes. Three strings. *British Burmah.* L. 4 ft., H.  $6\frac{1}{4}$  in. (Bought from the Annual International Exhibition, 1872, 2*l.* 10*s.*)

The *megyoung* is usually constructed as follows:—Its long body is a hollow cylinder. It has a sound-hole consisting of a long incision in the bottom of the body running lengthwise. Its three silken strings rest on two bridges, one being placed near the head, and the other near the tail. The strings run over ten frets made of a hard wood and affixed to the back of the alligator at regular distances. The three tuning-pegs are situated at the tail, and measure about eight inches in length.

The performer places the *megyoung* before him on the ground, and vibrates the strings with his fingers. The instrument is used in the Burmese full orchestra, which generally accompanies dramatic representations and similar entertainments. Some Burmese musicians, it is said, perform upon the *megyoung* with surprising dexterity, especially when extemporizing preludes and interludes to their songs.

1608. '72.

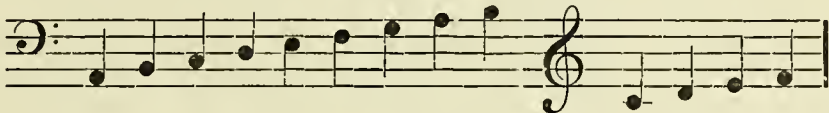
**S**OUNG. Boat-shaped harp, on coloured wooden stand, carved as a negro boy. Thirteen strings. *British Burmah.* L. 3 ft., H. with stand 3 ft. 2 in. (Bought from the Annual International Exhibition, 4*l.* 6*s.*)

The most noteworthy harp in use in Asiatic countries is the *song*, also called *saun*, *tsoung-gouk*, and *thembogyoung*. It is made of various sizes, generally measuring from two to five feet in length. The body is of a light wood hollowed and varnished, generally black with designs in gilding. Its shape somewhat resembles a canoe with a deck. Its sound-board is generally formed of buffalo leather. At the extremity of the body a neck, made of a hard wood, is neatly fastened. The neck

tapers towards the end, and rising, curves over the body. The body has generally two sound-holes, one on each side of the strings.

The *soung* is usually mounted with thirteen strings of silk. Sometimes wire is used instead of silk; but this is an innovation. The silken strings are neatly twisted, and rubbed with a resinous substance. Tasseled cords, attached to the ends of the strings and wound round the curved neck, are of assistance in tuning the *soung*, which is done by pushing the strings upwards or downwards, so that the curvature of the neck increases or diminishes the tension.

The strings are tuned in the following order of intervals:—



The *soung*, when played upon, is held across the lap, the curved neck being to the left; the performer passes his right hand round it, and over the strings. Its sound is described as pleasant, even by European auditors in Burmah. The *soung* is, however, more frequently used in accompanying vocal music than in solo performances. The performer occasionally produces a semitone by applying a finger of the left hand to a string near the end, which has the effect of shortening it. He, however, generally twangs the strings with both hands.

1629. '72.

**P**AT-MA. Large drum. Wood, bound lengthwise with strips of skin. *British Burmah*. L. 2 ft.  $\frac{1}{2}$  in., Diam. 1 ft. 11 in. (Bought from the Annual International Exhibition, 1872, 1*l.* 10*s.*)

This drum, as also the other musical instruments from British Burmah here mentioned, were manufactured at Pazoongdoug, the Burmese quarter of the town of Rangoon.

1628. '72.

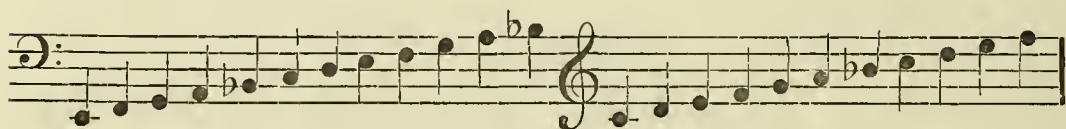
**B**ONDOUNG. Long drum. Wood, bound lengthwise with strips of skin. *British Burmah*. L. 3 ft., Diam. 8 in. (Bought from the Annual International Exhibition, 1872, 18*s.*)



1630. '72.

**P**ATTALA, or Patolah. Wooden harmonicon. The case painted black and red, and gilt; carved in low relief with dragons, birds, and tracery. *British Burmah*. H. 1 ft. 9 in., L. 2 ft. 8 in. (Bought from the Annual International Exhibition, 1872, 5*l.* 5*s.*)

The *pattala* contains sonorous slips of wood or bamboo, sixteen or eighteen in number, of graduated lengths, the largest of which is from twelve to fifteen inches long, and two inches broad. They are strung on a double cord, and are suspended over an open sounding-box resembling a trough, or a boat. The roundish outside of the bamboos is uppermost. They retain their original thickness at their ends, but are thinned and scooped out towards the middle; and it is by this method of thinning and hollowing them that the required pitch of tone for each is obtained. The *pattala* is played with one or two little sticks, about eighteen inches in length, and terminating in a rather thick ball made of cloth. A *pattala* containing twenty-three tones measures about four feet and a half in length, and produces the following diatonic succession of intervals:—



The sound is mellow and pleasing. Captain Henry Yule (*A Narrative of the Mission sent by the Governor-General of India to the Court of Ava*, London, 1858), remarks: "Though its materials are of no value, a good old *pattala* is prized by the owner like a good old Cremona, and he can rarely be induced to part with it."

1632. '72.

**P**AT-TSHAING. Hoop of wood, carved with bands of pomegranate and foliage ornament, and leaf borders coloured red; containing twenty-one drums of graduated sizes. Fringe of coloured cloth vandykes. *British Burmah*. Diam.

4 ft. 9 in., H. 2 ft. 7 in. (Bought from the Annual International Exhibition, 1872, 15*l.* 10*s.*)

The *pat-tshaing* generally contains sixteen, eighteen, or twenty-one drums, which are suspended vertically around the interior of the frame; so that the smallest, which is about two and a half inches in diameter, is placed at the right side of the entrance, and the largest, which is about ten inches in diameter, at the left. The entrance consists of a small opening in the frame, which can be closed. The drums have fixed tones. Their pitch is regulated by means of a little moist clay, which is applied to the centre of the parchment with the sweep of the thumb. The performer, squatted in the centre, beats the drum with his fingers and palms, and occasionally uses also a little drum-stick. The names, *tshain*, *tseing*, *tsine*, *sein*, and *shing*, by which the instrument is designated, are evidently mere abbreviations of *pat-tshaing*, written or pronounced in different ways.

The *pat-tshaing* is often employed in the orchestra accompanying a Burmese dramatic performance. It is also used in processions, being carried by two men, whilst the performer shuffles along in the inside, playing as he goes. He is said to evince, not unfrequently, much skill and dexterity.

1631. '72.

**K**YEE-WAIN. Two concentric circles of wood, between which are suspended fifteen metal plates resembling cymbals, graduated in size and tone. The outer circle is carved in openwork with pomegranate ornament in black wood. *British Burmah.* Diam. 4 ft. 3 in., H. 1 ft. 1½ in. (Bought from the Annual International Exhibition, 1872, 10*l.*)

The *kyee-wain* is one of the principal instruments employed in a Burmese full orchestra. The performer seated within the frame strikes the plates with two small sticks, about six inches long and an inch in diameter, which are covered at the end with leather or cloth. In a Burmese theatre of any pretension to respectability, there are generally, besides wind instruments and castanets, two *kyee-wains*, one of which is placed on each side of the scene. Moreover, there are some varieties of this instrument in Burmah. One or other kind of *kyee-wain* is a popular instrument in almost every district of Further-India.

## 6 and 6a. '70.

UR-HEEN and Bow. A species of fiddle. Wood, with two strings. The body covered at the top with the skin of the *tan*, a snake of the Boa family. The bow is of cane and horsehair. *China*. Modern. L. 2 ft.  $2\frac{1}{4}$  in., Diam. of body 3 in., L. of bow  $24\frac{5}{8}$  in. (Given by the Directors of the Alexandra Palace Company.)

## 7 and 7a. '70.

UR-HEEN and Bow. A species of fiddle. Wood, with two filken strings. The bow of cane and horsehair. *China*. Modern. L.  $23\frac{1}{4}$  in., Diam. of body  $3\frac{5}{8}$  in., L. of bow  $24\frac{1}{4}$  in. (Given by the Directors of the Alexandra Palace Company.)

The strings are tuned in the interval of a fifth from each other. Tradescant Lay ('The Chinese as They Are,' London, 1841) remarks: "The hairs of the bow pass between the strings, which, as the strings are very near to each other, constitutes the chief difficulty in playing. It requires long practice to enable the learner to press the bow fairly upon one without touching the other, and thus mingling the tone desired with some extraneous noise of the most grating description. Out of this wretched thing performers contrive sometimes to draw sounds of great brilliancy, so that I have heartily wished them a better tool for their pains. Such is the result of much practice."

## 5 and 5a. '70.

YE-YIN and Bow. A species of fiddle. The body, apparently formed of a segment of the shell of some fruit, is open at the back. Two strings. The bow of cane and horsehair. *China*. Modern. L. 3 ft. 4 in., Diam. of the body  $4\frac{1}{2}$  in., L. of bow 2 ft. 2 in. (Given by the Directors of the Alexandra Palace Company.)



936. '73.

**Y**E-YIN. A species of fiddle. *China.* Modern. L. 2 ft. 5 in., Diam. 5 in. (Given by Sir F. Gore Ouseley.)

1. '70.

**Y**UE-KIN or "Moon Guitar." Wood, with four filken strings, arranged in two pairs, each pair tuned in unison. *China.* Modern. L. 24½ in., Diam. 14 in. (Given by the Directors of the Alexandra Palace Company.)

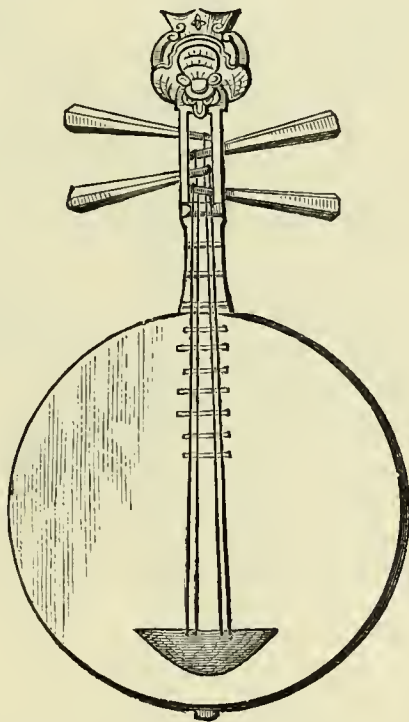


Fig. 114.—YUE-KIN. *China.*

933. '73.

**Y**UE-KIN. *China.* Modern. L. 2 ft. 4¼ in., Diam. 14½ in. (Given by Sir F. Gore Ouseley.)

The *yue-kin* is tuned in the interval of a fifth, thus :—



Tradesant Lay ('The Chinese as They Are, London, 1841) relates :  
 "As the strings are short, the sound is smart and keen, and must be drawn out by forcibly striking the string with the nail or with a plectrum of wood or metal. I once saw a musician at one of the strolling theatres, who displayed a great deal of execution upon the *yue-kin*, with a very pleasing effect. On another occasion it was used as an accompaniment to the *ur-heen*, and as the musician understood his business, the result had something particularly exhilarating about it."

2. '70.

**P**EPA. Wood, with small plaques of incised ivory, and four filken strings. Principally used by Chinese ladies. *China*. Modern. L. 3 ft.  $3\frac{3}{4}$  in., greatest W.  $12\frac{1}{4}$  in. (Given by the Directors of the Alexandra Palace Company.)

393. '71.

**P**EPA. Wood, the top of the neck carved with a bat. Fluted tuning pegs. In the interior is a pendulum or founding spring. The finger-board is wanting. *China*. Modern. L. 2 ft.  $11\frac{1}{2}$  in., W.  $9\frac{3}{8}$  in. (Bought, 3*l.*)

934. '73.

**P**EPA. *China*. Modern. L. 3 ft., W.  $9\frac{1}{2}$  in. (Given by Sir F. Gore Ouseley.)

The *pepa* is tuned in the intervals of a fourth, a whole tone, and a fourth, so that the outer strings are octaves to each other, thus :—



4. '70.

**S**AN-HEEN. Wood, three filken strings. The body covered on both sides with the skin of a snake. *China*. Modern. L. 3 ft. 2 in., greatest W. of body 6 in. (Given by the Directors of the Alexandra Palace Company.)

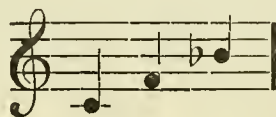


Fig. 115.—SAN-HEEN. China.

935. '73.

**S**AN-HEEN. *China*. Modern. L. 2 ft. 11 in., W.  $5\frac{1}{2}$  in. (Given by Sir F. Gore Ouseley.)

The *san-heen* is tuned in two fourths, thus :—





10. '70.

**Y**ANG-KIN. A dulcimer. Lacquered wood, with carved jade plaques over the sound holes. The thin brass wires are struck with two small wooden hammers of peculiar shape. In a drawer is a small brass tuning hammer. *China.* Modern. L. 2 ft. 4 in., W. 10 in. (Given by the Directors of the Alexandra Palace Company.)

As the *yang-kin* is not mentioned in the older Chinese treatises on musical instruments, it is probably of comparatively modern origin,—perhaps a modification of the *santir*, which is known in Hindustan, as well as in Western Asia.

9. '70.

**T**CHE. Wood, mounted with bone. Sixteen thin brass wires. The movable bridges belonging to the instrument are wanting. *China.* Modern. L. 3 ft. 2½ in., W. 8½ in. (Given by the Directors of the Alexandra Palace Company.)

3. '70.

**K**IN or “Scholar’s Lute.” Wood, lacquered, and inlaid with mother-of-pearl. Seven strings of silk. *China.* Modern. L. 4 ft. 0½ in., W. 7½ in. (Given by the Directors of the Alexandra Palace Company.)

13. '70.

**T**Y. A flute. Bamboo, with ivory tips. Ten finger-holes on the upper part and two opposite placed near together towards the lower end. *China.* Modern. L.

2 ft. 2½ in. (Given by the Directors of the Alexandra Palace Company.)

The general name for the flute is in Chinese *fiao* or *seaou*. The *ty* is blown like the *flûte traversière* or German flute. It is generally provided with ten finger-holes and two mouth-holes. One of the mouth-holes is situated nearer to the centre of the tube than the other, and is covered with a film when not used. By means of this second mouth-hole a higher pitch is obtainable. Two of the finger-holes are also often covered with a film, so that only the pentatonic intervals are producible. When all the finger-holes are open, the order of intervals is diatonic. There is a large *ty* and a small one in popular use. The order of intervals generally adopted on the large *ty* is the following, which may be transposed to a higher pitch by using the second mouth-hole :—



are, however, also obtainable by means of two finger-holes which are placed opposite to each other at the further end. Tradescant Lay ('The Chinese as They Are,' London, 1841, p. 197) says :—"The flute is used only for solos, and appears to be regarded as having an appropriate connexion with religious rites. In one of the temples at Canton a flute player stood by the altar, and while the ceremonies of worship were in progress he blew a soft and melancholy air as an integral part of the service."

14. '70.

**T**Y. A flute. Bamboo, stained and varnished. Five finger-holes on the upper part, and three opposite. *China*. Modern. (Given by the Directors of the Alexandra Palace Company.)

978. '72.

**T**Y. A flute. Bamboo, bound at intervals with silk, and tipped with bone and horn. *China*. 19th century. L. 2 ft. 3 in. (Given by Miss Newbery.)

15. '70.

**Y**O. A flute à bec. Seven finger-holes on the upper part, and two opposite. The seventh finger-hole, which is placed at a greater distance from the sixth than is the distance between the others, is covered with a thin bladder. *China.* Modern. L.  $14\frac{1}{8}$  in. (Given by the Directors of the Alexandra Palace Company.)

20. '70.

**H**EANG-TEIH. A kind of oboe. The tube of wood with brass mouthpiece and brass bell. Seven finger-holes on the upper part and two opposite. *China.* Modern. L.  $12\frac{1}{4}$  in., diam. of bell  $3\frac{1}{2}$  in. (Given by the Directors of the Alexandra Palace Company.)

The instrument is blown through a little *double reed*, which is stuck upon the brass mouth-tube.

The *heang-teih* is used at marriage entertainments, in funeral processions, and on most other occasions of joy or sorrow. It is a favourite instrument with the Chinese. Its sound is loud and harsh,—at any rate to European ears; the Chinese are said to be charmed by it. There are generally two loops on the bell of the *heang-teih*, to which silken ornaments are attached.

19. '70.

**H**EANG-TEIH. A kind of oboe. The tube of wood, with brass mouthpiece and brass bell. Seven finger-holes on the upper part and one opposite. *China.* Modern. L.  $19\frac{3}{4}$  in., diam. of bell  $5\frac{3}{4}$  in. (Given by the Directors of the Alexandra Palace Company.)





TRUMPET.  
*Chinese, Modern.*  
16 '70.

DRUM AND PAIR OF STICKS.  
*Chinese, Modern.*  
25 to 25 b. '70.

TRUMPET.  
*Chinese, Modern.*  
21. '70.

OBOE.  
*Chinese, Modern.*  
19. '70.

VIOLIN AND BOW.  
*Chinese, Modern.*  
7 and 7a. '70.



21. '70.

**H** WANG-TEIH. Brass trumpet. With three sliding tubes. Principally used in funeral processions. *China*. Modern. L., when drawn out, 3 ft. 8 in., when contracted,  $22\frac{1}{4}$  in., diam. of bell  $5\frac{1}{2}$  in. (Given by the Directors of the Alexandra Palace Company.)

The *hwang-teih* is made either of thin sheet brass or of copper, and resembles our trombone in as far as its stem is capable of being lengthened and shortened at the will of the player. The *tung-keo*, another Chinese brass wind instrument, is of a construction similar to the *hwang-teih*, the difference between the two instruments consisting chiefly in the position of the bell, which in the *tung-keo* is turned upwards by means of a crook expanding into the bell. The stem of the *tung-keo* is composed of two tubes, one of which can be drawn within the other. There are, moreover, two varieties of this instrument differing in size. Both yield mournful sounds.

The mouth-piece of the *hwang-teih* is curious on account of its flatness. It is not concave like any which are used at the present day in European countries; and it is remarkably broad and thin. A Chinese who played upon one of these instruments in London took the whole disc in his mouth and placed it against his gums, instead of placing it against the lips; but it may be doubted whether this is the established Chinese method of blowing the *hwang-teih*.

7701. '61.

**H** WANG-TEIH. Brass trumpet. With three sliding tubes. *China*. Modern. L., when open, 4 ft. 2 in. (Bought, 3*l.* 10*s.*)

16. '70.

**H** WANG-TEIH. Brass trumpet. With two sliding tubes. *China*. Modern. L., when drawn out,



3 ft.  $1\frac{1}{4}$  in., when contracted, 20 in., diam. of bell,  $3\frac{7}{8}$  in.  
(Given by the Directors of the Alexandra Palace Company.)

24. '70.

**C**ONCH Trumpet. A conch shell, used as a trumpet by the Buddhist priests in China, in their religious ceremonies. *China*. Modern. L.  $11\frac{1}{2}$  in. (Given by the Directors of the Alexandra Palace Company.)

The oldest and most universally known trumpets are evidently those which are made of a large shell, or of the horn of an animal. The former is, as might be expected, more generally found on islands and in those districts of a continent which have a sea-coast. The conch is usually blown through a small hole which has been drilled for this purpose through the spiral end. In some instances we find the hole provided with an artificial projection made of wood or some other suitable substance; or a tube is inserted to facilitate the blowing.

512. '68.

**C**HENG. Containing 17 pipes of small bamboo reeds, arranged in five sets, each set having pipes of equal length. Most of the pipes have a finger-hole on the lower part of the outer side; two of them have it on the inner side. The pipes are inserted in an air-chest, so as to leave an open space in one portion of the circle in which they are ranged. The performer places his thumb in this opening, in order to cover the finger-holes of the inside when required. The air-chest is a bowl made of a gourd, or of wood, and lacquered generally black. The *cheng* contains *free reeds*, or metal tongues, which vibrate and sound when the finger-holes are closed. *China*. Modern. H. 1 ft.  $5\frac{1}{4}$  in., W. (including the mouthpiece)  $4\frac{1}{4}$  in. (Given by Mr. Engel.)

This is one of the oldest instruments of the Chinese still in use, and may be regarded as the most ancient species of organ with which we are exactly acquainted. Formerly it was made with a long spout for a mouthpiece, which gave it the appearance of an old-fashioned coffee-pot. The *cheng* is also popular in Japan; and a similarly-constructed instrument, though different in outward appearance, is the *heem* of Burmah and Siam. The Siamese call their *heem* "The Laos organ," which indicates that they consider it to have been originally derived by them from Laos. Moreover, there deserves to be noticed another Chinese instrument of this kind, simple in construction, which probably represents the *cheng* in its most primitive condition. It is to be found among the Meaou-tsze, or mountaineers, who are supposed to be the aboriginal inhabitants of China. They call it *sang*. This species has no bowl, or air-chest; it rather resembles the Pan-pipe, but is sounded by means of a common mouthpiece consisting of a tube, which is placed at a right angle across the pipes. The Chinese assert that the *cheng* was used in olden time in the religious rites performed in honour of Confucius. Tradescant Lay, in his account of the Chinese, calls it "Jubal's organ," and remarks, "this seems to be the embryo of our multiform and magnificent organ."



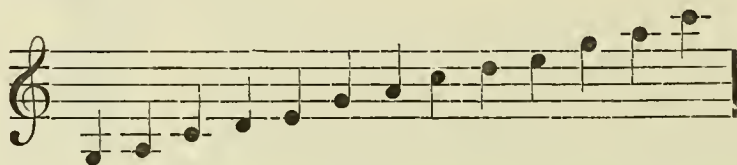
Fig. 116.—CHENG; A CHINESE ORGAN.

8. '70.

**C**HENG. Containing 17 bamboo canes, the two longest of which are tipped with bone. The canes are inserted in a wooden chamber with an ivory mounted mouthpiece, and are fastened together with a band of horn. Inside the tubes are small vibrating tongues. *China*. Modern. L.  $16\frac{5}{8}$  in., W. 4 in. (Given by the Directors of the Alexandra Palace Company.)

The *cheng* with seventeen tubes is generally so constructed as to emit thirteen tones,—four of the tubes, being silent, merely serve to

strengthen the position of the others. The tones are produced by closing the finger-holes at the lower ends of the tubes, and by blowing into, or inhaling through the mouthpiece. The following are the tones of the tubes in successive order:—



In ancient time the *cheng* with thirteen sounding tubes was tuned to yield the following tones:—



The arrangement of the tones on the old *cheng* with twenty-four tubes, and likewise on that with nineteen tubes, was not less strange than that given in the last notation of the *cheng* with thirteen tubes. It will, however, be observed that this notation contains the intervals of the chromatic scale, while the previous notation exhibits the pentatonic scale.

977. '72.

**C**HENG. Formed of a cluster of seventeen short bamboo canes, mostly tipped with stained bone, fastened together by a band of horn, and inserted into a wooden chamber with ivory mouth-piece. *China*. 19th century. L. 17 in., W.  $4\frac{1}{2}$  in. (Given by Miss Newbery.)

938. '73.

**C**HENG. *China*. L. 17 in. W. 4 in. (Given by Sir F. Gore Ouseley.)

25, 25a, and 25b. '70.

**K**OU. A drum, with a pair of drumsticks of painted wood and leather. Suspended by rings in a wooden frame. *China*. Modern. H. of frame  $24\frac{1}{2}$  in., diam. of



drum 18 in., L. of drumsticks 11 in. (Given by the Directors of the Alexandra Palace Company.)

The Chinese construct some large and highly ornamented drums called *kou*. One kind, placed between four pillars, is used especially in theatrical performances. The drummer, in order to be enabled to strike it at the top, mounts a platform connected with this drum. Another kind, which is highly ornamented, is raised on a pillar with four feet, on each of which is the figure of a fabulous animal. Above this drum is a canopy made of silk embroidered with gold. A recent traveller in China relates that he saw in one of the famous Buddhist temples at Pootoo, in the vicinity of Ningpo, a "big-bellied drum," ten feet in diameter, fixed on cross-beams about twelve feet from the ground.

26, 26a, and 26b. '70.

**K**OU. A small drum resembling a tambourine, with a drumstick. The instrument rests on an expanding tripod stand of bamboo. *China*. Modern. Diam.  $10\frac{3}{4}$  in., H. of stand 2 ft.  $3\frac{3}{4}$  in. (Given by the Directors of the Alexandra Palace Company.)

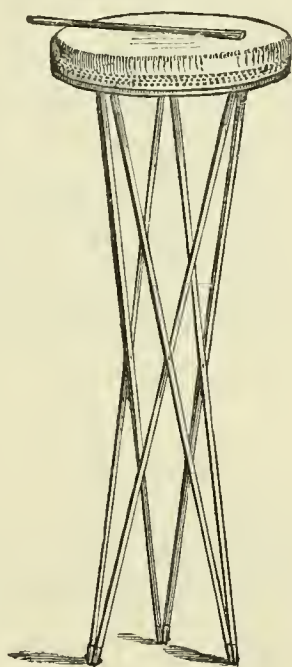


Fig. 117.—CHINESE DRUM.

This drum, which is covered with horse-hide, is made use of by the Chinese on the stage, for the purpose of accompanying the voices of the singers. Another little drum, consisting of a frame of wood covered with pig-skin, and resting on three legs, is used by the Buddhists in certain sacred performances. Large drums are frequently suspended in the temples of the Chinese, and are occasionally beaten by the priests instead of saying prayers.

18 to 18*b*. '70.

**K**OU. A small drum. Wood, covered with pig-skin. With two pairs of cane sticks for beating it. *China*. Modern. Diam.  $8\frac{1}{2}$  in., L. of sticks  $10\frac{3}{8}$  in. (Given by the Directors of the Alexandra Palace Company.)

28 to 28*d*. '70.

**P**AN. A piece of wood, with a groove cut nearly through its substance, and four bamboo sticks. A rude instrument of percussion. *China*. Modern. L.  $6\frac{1}{8}$  in., L. of sticks  $10\frac{3}{8}$  in. (Given by the Directors of the Alexandra Palace Company.)

The Chinese castanets, called *pan*, are made of a hard wood resembling mahogany. The most plain ones, the *cha-pan*, or *pih-pan*, are used by beggars, who in the street, before the shop doors, vigorously clatter them until they are relieved by some trifling alms, usually the small copper coin called cash. These supplicants, who are often blind men, however, frequently use two simple sticks of bamboo for the same purpose.

27. '70.

**C**HA-PAN. Chinese castanets. Three pieces of hard wood resembling rosewood. Principally used by beggars. *China*. Modern. L.  $10\frac{1}{2}$  in. (Given by the Directors of the Alexandra Palace Company.)

12 and 12a. '70.

**I**NSTRUMENT of Percussion. Wood, hollowed, carved, painted red, and partly gilt, with wooden stick for percussion. *Chinefe.* Modern. Diam. 7 in., L. of stick 10 in. (Given by the Directors of the Alexandra Palace Company.)

This instrument is used in the Buddhist temples in China. It not unfrequently consists of a block of wood shaped like a human skull, and is beaten at certain stages during the religious ceremonies. Moreover, the Buddhist priests use it in combination with other instruments of percussion for accompanying their sacred songs, which they perform sometimes by responding to each other, and sometimes by uniting their voices.

29a. '70.

**L**O. A gong. With a wooden beater. *China.* Modern. Diam. 6 in., L. of beater  $7\frac{1}{2}$  in. (Given by the Directors of the Alexandra Palace Company.)

The gong is a favourite instrument of percussion with several Eastern nations. It occurs of various shapes, being in some instances very similar to a cymbal, and in other instances without the cavity in the middle commonly appertaining to the latter instrument.

877. '68.

**L**O. A gong. With an inscription in Chinese. *China.* About 1830. H. 3 ft. 10 in., W. 2 ft. 10 in. (Given by the officers of the 4th Dragoon Guards.)

The translation of the inscription is—

“A Presentation to the Keo Sang Monastery. In the Manchow Dynasty, on the 15th lucky day of the first month of the twelfth year of Taue Kwong, the tried Scholars with the Buddhist Priests devoutly joined together to erect this Tablet.”

“We desire that the merits of those who raised this Tablet may be widely extended to the whole world, and that all who believe the



Buddhist doctrine may hear the good tidings. Im taou ning. Taouning Rar. Taou ning far Bogfar. These are the Buddhist words."

"These are the believers or disciples of Buddha:"—[Here follows a list of 41 names.]

"These are the names of the friars:"—[Here follows a list of 17 names.]

17 and 17a. '70.

**L**O-TSEIH. A small gong, suspended in a brass ring with a handle of black horn. With a small bamboo beater, having a knob at one end. *China*. Modern. L. 12 in., diam. of gong 6 in. (Given by the Directors of the Alexandra Palace Company.)

30. '70.

**T**UNG-LO. A gong, attached to a piece of wood for suspension. *China*. Modern. Diam.  $3\frac{3}{4}$  in. (Given by the Directors of the Alexandra Palace Company.)

The *tung-lo*, as well as the *lo-tseih*, is especially used in the temple but also by the servants walking before a mandarin; and likewise at private theatrical entertainments. The particularly sonorous quality of the *tung-lo* is asserted to be owing to an unusually large proportion of tin in combination with copper. It is an old custom with the Chinese for servants in attendance on a mandarin, when their lord is being carried in a sedan, to walk in front with gongs and to sound them, in order to give notice of the approach of the great man. A certain number of strokes denoting the exact rank of the officer is repeated at intervals.

11. '70.

**Y**UN-LO. Carved upright frame of wood, with plaques of carved ivory on the base (one plaque missing). Ten small metal plates are suspended between the bars of the frame. *China*. Modern. H. 2 ft. 4 in., W.  $19\frac{3}{4}$  in., diam. of the largest plate

$4\frac{3}{8}$  in. (Given by the Directors of the Alexandra Palace Company.)

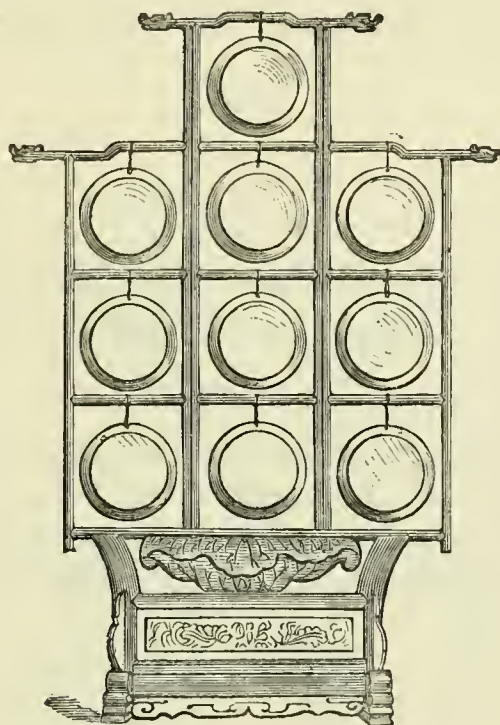


Fig. 118.—YUN-LO. China.

The plates of the *yun-lo* are sounded by means of a small bamboo stick, 7 or 8 inches in length. They are all of nearly the same diameter; but they vary in thickness, and consequently in pitch of tone. They are attuned in the following peculiar order of musical intervals:—

c  
f — a — d  
g — b-flat — b-natural  
e — e-flat — f-sharp.

The tone which corresponds to our *f* is the normal tone of the Chinese pentatonic scale. The tones *f*, *g*, *a*, *c*, *d*, which on the *yun-lo* are found close to each other, belong to this scale. The other tones of the *yun-lo*,—*b-flat*, *b-natural*, *e*, *e-flat*, and *f-sharp*,—enable the performer to produce the same scale in different keys. For instance, it may be transposed thus:—*f*, *g*, *a*, *c*, *d*; *c*, *d*, *e*, *g*, *a*; *d*, *e*, *f-sharp*, *a*, *b*; *b-flat*, *c*, *d*, *f*, *g*, &c.

The *yun-lo* is used especially by the Buddhist priests in their sacred ceremonies.

22. '70.

**S**EAOU-PO. Cymbals, pair of. Metal. *China*. Modern. Diam.  $12\frac{1}{2}$  in. (Given by the Directors of the Alexandra Palace Company.)

23. '70.

**S**EAOU-PO. Cymbals, pair of. Metal. *China*. Modern. Diam. 8 in. (Given by the Directors of the Alexandra Palace Company.)

Cymbals are, indeed, widely diffused, especially among Asiatic nations. They occur of very small dimensions, in which case they resemble some kinds of castanets; but as they are constructed of metal, the sound emitted by them is generally more definite and acute.

838. '69.

**B**IVA. A kind of lute. The body is of wood, lacquered black, and ornamented with a band of Japanese design in gold lacquer. Four strings, and two very small sound holes. *Japan*. Modern. L. 2 ft. 4 in. (Bought, Paris Exhibition, 1867, 14l.)

The performer twangs the strings with a plectrum. The *biva* is almost identical with the Chinese *pepa*, which has four strings of silk and is provided with frets.

839. '69.

**T**AKI-GOTO. Bamboo, with 13 strings of silk neatly twisted. The body ornamented with embroidered work, and painted with inscriptions, flowers, and foliage; in the centre is carved an open fan. Gilt, ornamented with painted foliage, and having tassels at each end. *Japan*. Modern. L. 6 ft. (Bought, Paris Exhibition, 1867, 16l.)





Fig. 119.—BIVA. Japan. (See page 194.)

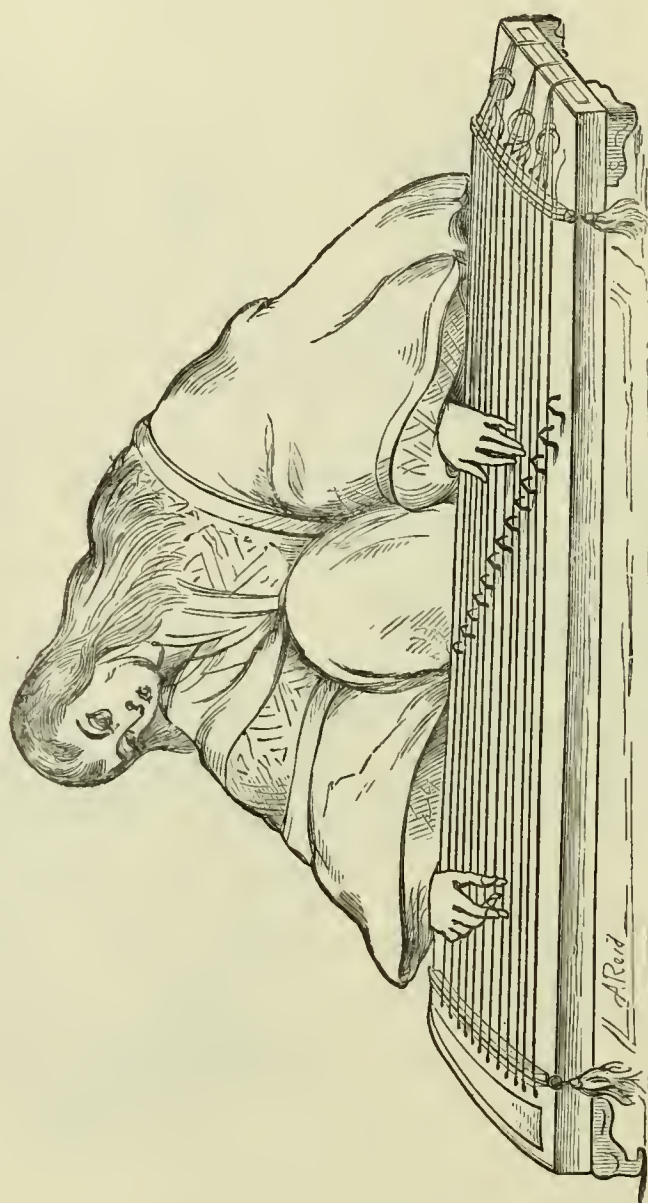


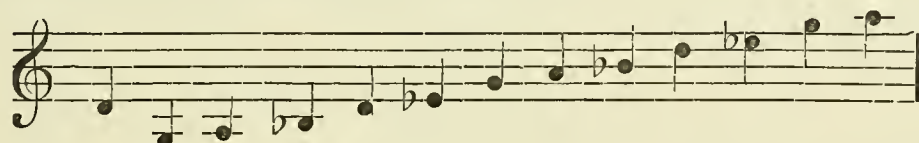
Fig. 120.—TAKI-GOTO. Japan. (See page 194.)

The Japanese have several instruments of the dulcimer class, called *goto*, or *koto*. The *taki-goto* is provided with thirteen movable bridges, by means of which the pitch of the strings is regulated. The bridges are of wood, and about  $2\frac{1}{2}$  inches in height. According to Meijlan ('Japan voogesteld in Schetsen,' Amsterdam, 1830), the *goto* is tuned in the following chromatic order of intervals:—



Some species of the *goto* are played with *pleetra* affixed to the fingers; and there are different successions of intervals adopted in the tuning of the several species.

The chromatic succession is probably more usually adopted on the *jamato-goto* than on the *taki-goto*; for the latter is known to be generally tuned in the following pentatonic order:—



The *taki-goto* is learnt chiefly by Japanese ladies moving in the upper circles of society. It is a rather expensive instrument, and requires much practice. The performer places it on the floor, and, sitting in the usual Japanese attitude, bends over it and twangs the strings with her fingers, the tips of which are encased in *pleetra*, resembling thimbles, which terminate with a little projecting piece of ivory in size and form like the finger nail.

885. '69.

**S**IME-DAÏKO. Small drum. The body in lacquer ware, ornamented with embossed flowers and foliage in gold. Two deal drumsticks in case, and a folding stand. *Japan*. Modern. Diam. 1 ft.  $1\frac{1}{2}$  in., H.  $5\frac{3}{4}$  in. (Bought, Paris Exhibition, 1867, 8/.)

The general name in Japanese for the drum is *daïko*. The Japanese have a great variety of drums, some of which are used at religious ceremonies in the temple. The *sime-daïko* is suspended in a wooden frame by means of filken cords, and is beaten on its upper part with sticks.



1025c. '71.

**K**IEN. Gong. Bronze. Suspended in a wooden frame. *Japan.* 18th century. H. of gong 2 ft., W. 2 ft. 3 in. With inscriptions in Japanese on both sides. (Bought [with other bronze objects], 115*l.*)

This gong, which is not unlike a copper kettle open at the bottom, is sounded by being beaten with a stick.

The Japanese have different kinds of gongs. The *tjantjan* resembles a copper basin. The *soeligane* consists of two metal basins suspended by cords on a frame composed of a pole and two cross-sticks. The Japanese use gongs in the service of the temple, in processions, at funerals, and on several other solemn occasions.

The Japanese, as well as the Chinese, possess superbly ornamented gongs raised on a stand. Those of the Japanese are perhaps the most magnificent.

1036. '71.

**B**ELL. Bronze, chased with borders, and inscriptions within panels, the upper part decorated with bosses, with handle formed of two conjoined dragons' heads. From a destroyed temple in Japan. *Old Japanese.* H. 4 ft. 2 in., diam. 2 ft 2 in. (Bought, 44*l.*)

The Japanese employ large bells in their Buddhist worship. There is a famous bell, richly engraved, in a kind of belfry connected with a temple near Hakodadi, which is struck, at different hours of the day, with a heavy wooden mallet; and its sound is said to be particularly sonorous, mellow, and far-carrying. Another celebrated Japanese bell is placed on a high hill near the town of Yokohama. It is suspended in a wooden shed, close to a temple. A thick pole, affixed to the rafters, is drawn backwards, and then, by being let loose, is made to rebound so as to hit the bell sideways in the usual manner. This bell is admired throughout the country, and pictures representing it are sold on the spot to the visitors, who have to ascend a long flight of narrow steps before they reach its station on the summit of the hill. Moreover, also small bells are used by the Buddhist priests in Japan while officiating in the temple,—just as is the case in China, Thibet, and other districts of the Asiatic continent, and also in the Roman Catholic church in European countries.

1037. '71.

**B**ELL. Bronze, chased with borders, with inscriptions and raised figures within panels, the upper part decorated with bosses, with handle formed of two conjoined dragons' heads. From a destroyed temple in Japan. *Old Japanese*. H. 3 ft. 10½ in., diam. 2 ft. (Bought, 41*l.* 10*s.* 6*d.*)

1028. '71.

**B**ELL. Bronze, chased with borders and inscriptions within panels, the upper part decorated with bosses, with handle formed of two conjoined dragons' heads. From a destroyed temple in Japan. *Old Japanese*. H. 4 ft. 8 in., diam. 2 ft. 6½ in. (Bought, 55*l.*)

494. '72.

**I**NSTRUMENT of Percussion, founded by the wind. Copper openwork, dome-shape, in imitation of apple sprigs with silver blossoms; with silk tassels and knot for suspension, and twelve white metal and gilt leaves hanging down by silk cords. *Japan*. 19th century. Diam. 8 in. (Bought, 5*l.* 10*s.*)

When the instrument is exposed to the wind, the metal leaves are caused to touch each other, whereby silvery and remarkably pure sounds are produced, continually changing in the degree of loudness according to the greater or less force of the percussion.

Although all the Æolian musical instruments might not improperly be regarded as wind instruments, musically they belong to three different classes, viz., stringed instruments, wind instruments, and instruments of percussion. Several of these contrivances are very ingenious and interesting. It would require much space to notice the various Æolian harps, flutes, cymbals, and bells constructed by different nations. Suffice it to point out some curious instruments of the kind invented by Asiatic nations.

The Chinese construct kites in various grotesque forms, representing fishes, butterflies, tigers, dragons, serpents, from ten to thirty feet in length, men sailing through the air, &c., which, by means of round holes supplied with vibrating cords, are made to produce Æolian music.

The Stiêns, a savage tribe dwelling in the mountainous district of Siam, send up kites to which they attach an instrument somewhat resembling a bow, which when agitated by the wind produces sounds described by a European traveller as "sweet and melodious."

A curious instrument of the Æolian kind is constructed by the natives of the Malay Peninsula, who call it *bulu-pârindu* ("the languishing bamboo") or *bulu-ribut* ("the bamboo of the storm"). It consists of a bamboo cane, rough from the jungle, measuring from 30 to 40 feet in length, which is perforated with holes, and stuck in the ground. Its effects are described as fascinating, some of the sounds being "soft and liquid like the tones of a flute, and others full like those of an organ." The natives of the Malay Peninsula also make out of the smaller bamboos a number of pipes which they string together and expose so as to be sounded by the passing wind. Furthermore, they construct a kind of Æolian harp, consisting of a long thick piece of bamboo split between the knots so as to resemble the strings of a harp, which they hang on the tops of the highest trees in the forest in such a position that the wind as it sweeps by, vibrates the cords.

Even more extraordinary is the contrivance of sound-producing arrows invented by the Chinese. The arrow has at the point a horn-tube, which is perforated with a hole. When discharged from the bow, it, while passing through the air, produces a tone. But whether the Chinese contrive to shoot a tune in the air, has not been ascertained by European bystanders.

In England the invention of the Æolian harp is generally attributed to Dunstan, Archbishop of Canterbury, who, according to an old tradition, constructed about the middle of the 10th century an Æolian harp, which he hung against a crevice in a wall, to cause the wind passing the crevice to vibrate the strings. The soft and gentle sounds thus emitted by an instrument untouched by human hand so greatly astonished and awed the people, that they accused Dunstan of sorcery. If this tradition may be relied upon, the Æolian harp must have been unknown in England before the 10th century, or, if it had been previously known, it must have fallen into oblivion, just as was the case in the 17th century when Pope brought it anew before the English people.

Most probably the instrument was known in Asia long before the Christian era. Sir James Emerson Tennent ('Ceylon, an Account of the Island, physical and topographical,' London, 1859) quotes a passage



from the Mahavanfo, a sacred and historical book of the Singhalese, which is as follows: "The king, Prakrama, built a palace at the city of Pollanarrua, and the stoneworks were carved in the shape of flowers and creeping plants, with golden networks which gave harmonious sounds, as if they were moved by the wind." Sir William Jones ('On the Gods of Greece, Italy, and India,' Asiatic Researches, vol. i., Calcutta, 1788) mentions that in the poem entitled Magha, the invention of the Hindu *vina* is thus alluded to: "Nareda sat watching from time to time his large *vina*, which, by the impulse of the breeze yielded tones that pierced successively the regions of his ear, and proceeded by musical intervals." Again, according to Rabbinic tradition, King David's harp sounded at midnight, its strings being vibrated by the north wind, and King David was in the habit of suspending it during the night over his couch. This so-called harp, the Hebrew *kinnor*, was probably a species of lyre. Incredible as it may appear that King David should have had a current of air over his couch strong enough to cause his *kinnor* to sound, the tradition is nevertheless noteworthy, inasmuch as it indicates an early acquaintance in the East with the phenomenon exhibited by the Æolian harp.



## THE CAUCASUS,

AND NEIGHBOURING DISTRICTS.



THE majority of the various tribes of the Caucasus have bards, called Kikoakoa, who recite in verse old stories, fairy tales, and occasionally extempore poetry, accompanying their vocal effusions with a three-stringed kind of guitar, called *balalaika*. The Sunets, a people dwelling in the highest of the inhabited valleys of the Caucasus, have a rude stringed instrument, called *tschengjir*, which they play at funerals to accompany their songs of lamentation. It is, however, also used on other occasions, and appears to be almost identical with the harp of the Offetes. The Circassians have some peculiar instruments of their own. In the districts to the south of the Caucasus, or in Trans-Caucasia, the instruments mostly resemble those of Persia and Turkey.

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993. '69.



HARP of the Offetes. With twelve strings of horse-hair, ten black, and the two longest white, each string consisting of from six to eight hairs. Modern. W. 2 ft., H. 1 ft. 10 in. (Bought, Paris Exhibition, 1867, 1*l.* 8*s.*)

The Offetes, or Offetines, are an Indo-Germanic race dwelling in Central Caucasus. They call themselves Irôn; Ofeti is the name given to them by the Georgians, and other neighbouring nations.

Their little harp is especially interesting, on account of its resemblance to some instruments of this class represented on monuments of Eastern nations, dating from about a thousand years before the Christian era. The fore pillar, which in our harp serves to resist the tension of the strings, is wanting; and the same was the case with the ancient Oriental harp, and is so still with most harps found in Asiatic countries.

989. '69.

**B**AGHLAMA. A small kind of *tamboura*, with four strings of thin wire, and frets made of gut dyed red. The body is of wood, ornamented with mother-of-pearl and tinsel. Modern. L. 1 ft.  $8\frac{3}{4}$  in. (Bought, Paris Exhibition, 1867, 1*l.* 19*s.* 2*d.*)

There are several varieties of this instrument to be found in the Caucasus and adjacent countries. The strings are twanged with a quill.

990. '69.

**B**AGHLAMA. A small kind of *tamboura*, with four strings of thin wire, and frets made of gut. Wood, inlaid with bone and mother-of-pearl. Modern. L. 1 ft.  $6\frac{1}{2}$  in. (Bought, Paris Exhibition, 1867, 16*s.* 10*d.*)

992. '69.

**C**IRCASSIAN Violin and Bow. Wood, with two strings of horse-hair. In the middle of the body some small sound holes are pierced. Modern. L. 2 ft.  $2\frac{1}{2}$  in. (Bought, Paris Exhibition, 1867, 5*s.* 8*d.*)

The bow belonging to the Circassian violin is much curved, and is strung with hair taken from the tail of the horse, as is likewise the case with the two (rarely three) strings on the instrument. This species of



violin somewhat resembles the *guzla* which has been in use by most of the Slavonic tribes in Europe from an early period. The *guzla* has, however, only one string of horsehair.

999. '69.

**S**KRUIBKA, or *Kemangeh roumy*. Wood, inlaid with mother-of-pearl and bone. *Caucasus*. Modern. L. 1 ft. 7 in. (Bought, Paris Exhibition, 1867, 1l. 2s. 6d.)

This instrument, which in shape resembles our antiquated *rebec*, is constructed on the principle of our *viole d'amour*, now likewise fallen into oblivion. It has three strings of silk, which are played upon with a bow; and three other strings, of thin wire, which are drawn through the bridge and run beneath the silken strings. The wire strings merely serve to increase the sonorousness of the upper strings vibrated by the bow. It is a well-known fact, that if of two sonorous bodies tuned in unison, or in octaves, one is made to sound, the other will also vibrate, and will sound without being touched. The Hindus especially have many stringed instruments in which sympathetic sounds are employed. The Turks have a specimen called *sine keman*, which is constructed on this principle, and which resembles the Caucasian instrument under notice. *Kemangeh roumy* signifies "Greek viol."

*Skruibka* is the name by which the Russians denote the violin in general. In the stringed instruments of European nations the use of sympathetic tones has almost entirely been discarded, especially since the sound-board has been constructed on more acoustic principles and continually improved.

991. '59.

**S**ANTIR. A kind of dulcimer. Wood, inlaid with mother-of-pearl. It contains twenty-five sets of wire strings, each set consisting of four strings which are tuned in unison. In the middle are two rows of movable bridges, by means of which the pitch of the strings is regulated. The bridges, which somewhat resemble chessmen, are made of wood, painted red and green, and have at the top a small strip of brass on which the strings rest. The tuning-pegs are on the right

side of the sound-board. *Georgia*. Modern. H.  $2\frac{1}{2}$  in., greatest L. 2 ft.  $4\frac{7}{8}$  in. (Bought, Paris Exhibition, 1867, 2*l.* 10*s.* 4*d.*)

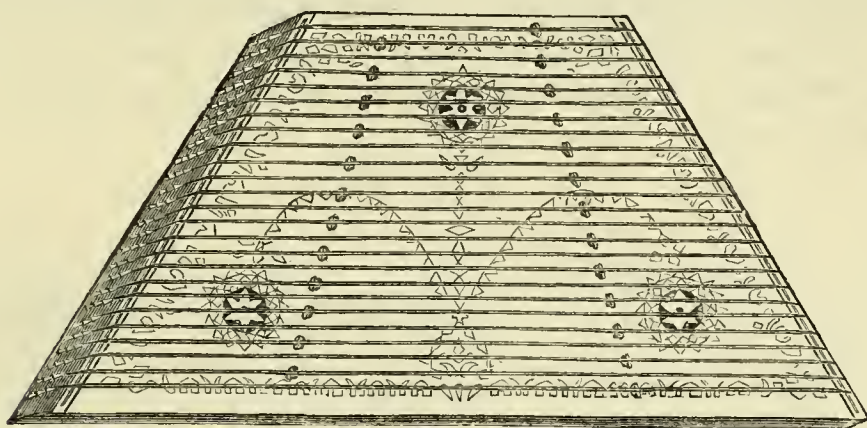
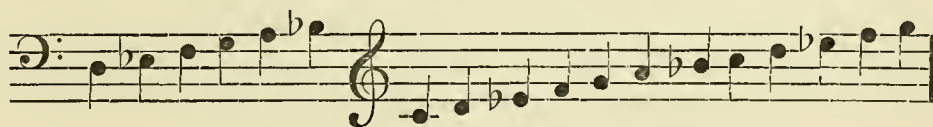


Fig. 122.—SANTIR.

The *santir* is played with two little hammers, just as is the *café* with the dulcimer. Its name may possibly be a corruption of *psalterion*; for, according to the statement of some writers, it was formerly called by the Copts in Egypt *pisalterion*. However this may be, the present specimen cannot fail to prove especially interesting to the musical historian if compared with the fine specimen of an Italian dulcimer of the seventeenth century exhibited among the antiquated instruments in the present collection (*see* 264. '66, page 235). The resemblance which these two instruments bear to each other is very remarkable.

The *santir* is one of the oldest-known musical instruments of the Persians and Arabs. The Hindus, likewise, have a dulcimer of this kind, called *far mundal*, which is, however, not played with hammers but with a plectrum. The *far mundal* resembles the *kanoon* in shape, but it is strung with wire, and may be regarded as holding a middle place between the *santir* and *kanoon*.

The Egyptian *santir* has thirty-six strings, which are arranged in eighteen pairs so as to produce the following tones:—



The peculiar construction of a handsome *santir* which was sent from Turkey to the International Exhibition, London, 1862, may be briefly described as follows:—Trapezium shape; depth, 2 ft. 11 in.; width in front, 2 ft. 11 in. Two round sound-holes tastefully embellished. Brass

wire strings. One hundred and four tuning pegs of iron, somewhat resembling those on our pianoforte. On the sound-board two long bridges of brass, over and under which the strings run. In addition to these bridges, two small wooden ones, viz., one for the two lowest strings and one for the six highest strings. Most of the groups of strings consist of six tuned in unison, only the groups for the deepest tones have fewer strings, so that the one hundred and four strings produce only nineteen tones.

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## TURKEY.



MOST of the musical instruments of the Turks are nearly identical with those of the Arabs and Persians. Moreover, the Turks have a popular tradition according to which their music attained the degree of perfection, which they ascribe to it, through the influence of a great composer and performer who came from Bagdad. They relate that when Amurath IV. conquered Bagdad, which happened in the year 1638, he commanded that 30,000 inhabitants should be slain before his eyes. At the moment when the soldiers commenced executing the order of the cruel sultan, there appeared before him Shah-Kuli known as the Persian Orpheus. The bard strikes his harp and sings; and so touchingly does he sing and play that the sultan, moved to tears, pardons everyone, and takes Shah-Kuli and four other Persian musicians with him to Constantinople, to refine his people. Shah-Kuli's famous song, 'The Conquest of Bagdad,' is still known in Turkey.

The musical instruments of the Turks are chiefly made in Constantinople. The woods principally used in their construction are from the towns of Ismid and Bartan in Asia Minor; and also from Abasa in Trans-Caucasia. Rosewood and ebony are imported from India, and mahogany from America. The copper and silver used in the construction and ornamentation of the instruments are obtained from the mines of Tokat in Asia Minor, Samakow in Bulgaria, and some other places. The tortoise-shell, mother-of-pearl, and ivory are imported from Egypt, and from Yemen and Hedjaz in Arabia. The buffalo horn comes from Gallipoli and Ismid. The gut strings are principally fabricated in the towns of Kaïfariyeh and Kiankary in Asia Minor. The cymbals (called in Turkish *Zil*), in the fabrication of which the Turks excel, are chiefly made in Constantinople. The brothers Keuropé of that city export annually about 1,300 pairs of *zils* into Western European countries, and even as far as to America. The price is about 30s. the pair.

Turkish instruments of percussion have long since been introduced into Western European orchestras, especially into military bands. "Janissary Music" was to some extent adopted in Germany about the middle of the last century. The Janissaries, it will be remembered, were the foot-guards of the Sultan until the year 1826. The King of Prussia, Frederick II., after having organised such a military band, ordered it to perform before Achmet Effendi, the Turkish ambassador at Berlin. Achmet Effendi, smiling, shook his head and said, "That is not Turkish." Whereupon the King sent expressly to Constantinople for genuine Turkish musicians, in order to ensure the characteristics of the Janissary band direct from the source. The Austrians may have had good opportunities of learning this kind of music from their Turkish aggressors, who, towards the end of the seventeenth century, pushed so far forwards from Hungary as actually to besiege Vienna, and to terrify with their martial strains the peaceable citizens.

1032. '69.



**K**ANOON. The front and sides are inlaid with patterns in mother-of-pearl. Modern. Greatest L. 3 ft.  $1\frac{3}{4}$  in., greatest W. 1 ft.  $3\frac{1}{2}$  in. (Bought, Paris Exhibition, 1867, 24*l.* 18*s.*)

The *kanoon*, or *qânon*, an instrument especially appertaining to the Arabs and Persians, is, like the *santir*, a kind of dulcimer evidently of high antiquity in the East. The *kanoon* differs from the *santir* not only in form, but also in the circumstance that its strings are of gut (generally made of the intestines of the lamb), and are twanged with two small *plectra*, one attached to the fore-finger of each hand; while the strings of the *santir* are of wire, and are struck with two little sticks. In Turkey, the *kanoon* is a favourite instrument with the ladies in the Seraglio, and in the hareems of the wealthy classes. They use *plectra* made of tortoise-shell, pointed with cocoa-nut shell. Sometimes the *plectra* are made of silver.

The *kanoon* is generally mounted with seventy-five gut strings, which produce twenty-five tones, each tone having three strings in

unison. The instrument is tuned according to the following order of intervals :—



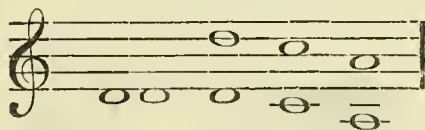
The present specimen has seventy-two strings, producing twenty-four tones ; and a fine *kanoon* from Turkey which was in the International Exhibition, London, 1862, had also seventy-two strings, arranged in unisons of three.

576. '72.

**T**ANBOUR Kebyr Tourky. The body bulbous, of wood striped with ivory, with inlay of tortoise-shell and mother-of-pearl. The neck with catgut frets. Eight ivory tuning-pegs. Thin wire strings. Made in the 18th century. L. 4 ft.  $5\frac{3}{4}$  in., Diam.  $12\frac{1}{2}$  in. (Bought, 12*l.*)

The *tanbour*, or *tamboura*, may be regarded as the eastern mandoline. There are various kinds of this handsome instrument in use, differing in shape, size, and in the number of strings. The body is generally of an oval shape, or rather pear-shaped. Of this form are, for instance, the *tanbour bouzourk* ("great tamboura"); the *tanbour boulgáry* ("Bulgarian tamboura"); the *tanbour baghlama* ("small tamboura"); the *tanbour charqy* ("oriental tamboura.")

The body of the *tanbour kebyr tourky* ("large Turkish tamboura") is circular in shape. The open strings produce four tones, of which one is a unison, and three are octaves, thus :—



The strings are twanged with a plectrum made of tortoise-shell, and called *zakhmeh*.

The *tanbour kebyr tourky* has generally thirty-five frets of thin catgut (or lambgut), each of which is wound four times tightly round the neck. The frets are placed at distances from each other calculated to secure a series of one-third tones according to the Arabic scale.



1011. '69.

**S**AZ. A small kind of *tamboura*, like the *baghlama* noticed page 203, with frets made of gut. Inlaid with various woods, tortoise-shell, ivory, and mother-of-pearl; the six tuning pegs ornamented with silver. Modern. L. 1 ft. 11 in. (Bought, Paris Exhibition, 1867, 3*l.* 1*s.* 3*d.*)

The *faz* is chiefly used by the *Sho'ara*, i.e. "Poets," who are itinerant musicians and bards of the Muffulmans.

1010. '69.

**D**DOUBLE Saz. Inlaid with various woods and mother-of-pearl. Seven tuning-pegs, metal strings, and frets made of gut. Modern. L. 1 ft. 7 in. (Bought, Paris Exhibition, 1867, 2*l.* 8*s.* 7*d.*)

1009. '69.

**K**EMANGEH. A species of violin, with three strings of gut, long tuning-pegs of ivory, and two sound holes behind the bridge. The back and upper portion are ornamented with tortoise-shell inlaid with ivory, and the back is decorated with a large rosette. Modern. L. 1 ft. 4 in., L. of the tuning-pegs, 6 in. (Bought, Paris Exhibition, 1867, 7*l.* 5*s.* 9*d.*)

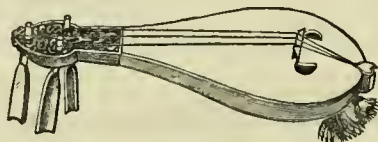


Fig. 122.—KEMANGEH.

The name *kemangeh* signifies an instrument which is played with a bow; and there are various kinds of the *kemangeh* in use among Mohammedan nations. Some kinds are of considerable size, and rest on

the ground while they are played. The *kemangeh a'gouz*, for instance, is supported on an iron rod, and the performer assuming a fitting posture, holds the instrument before him, somewhat in the same manner as our violoncello is held.

1031. '69.

**R**EBAB *esh-Sha'er*. The body consists of a wooden frame, over which a parchment is stretched; one string of white horse-hair. The instrument terminates in an iron foot, on which it rests. Modern. L. 3 ft. 2½ in. (Bought, Paris Exhibition, 1867, *l.* 18*s.* 6*d.*)



Fig. 123.—REBAB *ESH-SHA'ER*.

The *rebab esh-sha'er*, or the "Poet's viol," is an instrument of the Arabs as well as of the Turks. In Egypt it is generally used in the coffee houses to accompany the recitations of the "Sha'er" or poet (plural "Sho'ara"), who entertains the tobacco-smoking and coffee-sipping guests with a romance. His relation is interspersed with poetry, which he chants; and after each verse he plays a little interlude on his instrument. The romance usually recited is "The Life of Aboo-Zeyd;"

and hence the *rebab esb-sha'er* is also called "The Aboo-Zeydée viol." It is often made with two tuning pegs, so that a second string may be added at the option of the performer.

1013. '69.

**D**UDUK. A kind of flageolet. Wood, with seven finger-holes above and one underneath. Modern. L. 1 ft. 5 in. (Bought, Paris Exhibition, 1867, 1s. 3d.)

1018. '69.

**N**AY. A flute. Of wood; in three pieces. Ornamented with inlaid metal work, and having 12 finger-holes. Modern. L. together 2 ft. 9 $\frac{1}{4}$  in. (Bought, Paris Exhibition, 1867, 14s. 5d.)

The *nay* is sounded by blowing through a very small aperture of the lips against the edge of the orifice of the tube, and directing the wind chiefly within the tube. There is no artificial contrivance in the tube to assist the player, and much practice is required to produce a proper tone. From the way in which some of the flute players represented on the ancient Egyptian monuments hold their instrument, with the upper end of the tube placed against the lips, it would appear that the *embouchure* of the performer on the *nay* is of very high antiquity. The American Indians in Guiana and Northern Brazil have a similar method of sounding their rude bone flutes. They, however, narrow the upper end of the tube by partly closing it with a resinous substance. Furthermore, there are nose-flutes played in this way with the nose instead of the mouth, a manner of performance especially relished by the Polynesian islanders.

1019. '69.

**G**HIRIF. Small pipe. Black wood, with seven finger-holes. Modern. L. 8 $\frac{1}{2}$  in. (Bought, Paris Exhibition, 1867, 2s. 6d.)



1015. '69.

**Z**UMMÁRAH. Double reed pipe, each reed having six finger-holes. Modern. L.  $8\frac{3}{4}$  in. (Bought, Paris Exhibition, 1867, 1s. 7d.)

The name *zummárah*, which is given to a little reed pipe consisting of two tubes of equal length, must not be mistaken for *zamr*, which applies to a species of hautboy in use with the Arabs.

1017. '69.

**Z**UMMÁRAH. Double reed pipe, each reed having six finger-holes. Modern. L.  $8\frac{3}{4}$  in. (Bought, Paris Exhibition, 1867, 1s. 7d.)

1016. '69.

**A**RGHOOL. Double pipe of reed, in three pieces. Rudely ornamented with a pattern scratched upon the instrument. Modern. L., when put together, 2 ft.  $5\frac{1}{2}$  in. (Bought, Paris Exhibition, 1867, 2s. 7d.)

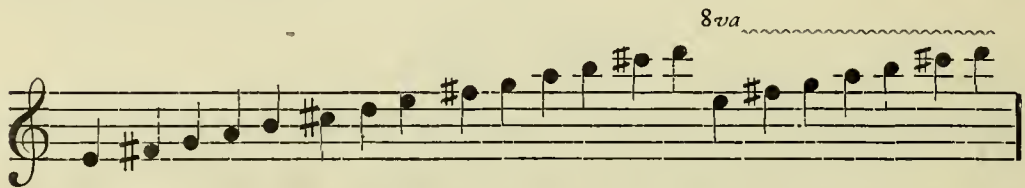
For some account of the Arghool see page 143.

1014. '69.

**Z**OURNA Vezirli. A kind of hautboy. Modern. L. 1 ft.  $2\frac{1}{2}$  in. (Bought, Paris Exhibition, 1867, 4s. 10d.)

There are several kinds of the *zourna* (or *zamr*) in use in Turkey, Egypt, Persia, and Hindustan. The ordinary sized and most common *zourna* may be described as follows:—The tube, usually made of cherry wood, somewhat increases in diameter towards the upper end. It is pierced with eight finger-holes, seven of which are placed on the upper side equidistantly; the eighth, which is for the thumb, is placed on the

opposite side towards the upper end of the tube. In addition to these finger-holes there are five small holes situated near the lower end. These small holes are only occasionally used, when the pitch of the instrument is altered. The alteration of the pitch is effected by means of the neck of the *zourna*, which consists of a wooden cylinder fitted into the tube. A portion of the cylinder is cut out at one side, and if this incised portion is placed in the direction of the finger-holes the passage of the air is admitted to all of them; but if the cylinder is turned, so that its solid side is in the direction of the finger-holes, two of them and the hole for the thumb are closed by it. In the latter case the small holes alluded to are made use of. In the top of the wooden cylinder is inserted a small tube of metal, upon which a small *double-reed*—generally made of the stem of the *dourrah*, a species of maize—is stuck, and tightly fastened by means of threads. Placed over the metal tube is a disc of ivory, ebony, or some other hard wood, with a hole in the middle. The player does not vibrate the reed between his lips, as is done on our oboe; he takes the reed and the tube into his mouth as far as the disc, against which he presses his lips. In covering the finger-holes he does not use the tips of the fingers, but the first joints. The compass of the middle-sized or common *zourna* is—



The treatment of the several species of *zourna* is much the same; he who can play one can play all.

1027. '69.

**G**HAÏDA. Bagpipe. The woodwork inlaid with metal, and ornamented with a tassel formed of string and glass beads. Modern. (Bought, Paris Exhibition, 1867, 155.)

The bagpipe (Italian, *cornamusa*, *musetta*, *piva*, *zampogna*; French, *cornemuse*, *musette*; German, *sackpfeife*, *dudelsack*; Russian, *wolynka*, *kosa*; Polish, *dudy*; Finnish, *pilai*; Scotch (Gaelic), *piob mhor*; Welsh, *pibau*; Persian, *nei ambánah*; Arab-Egyptian, *zouggarah*, *zummárah bi-soan*), is an instrument of high antiquity, and is very universally diffused, especially in Europe and Asia. In Scotland and Ireland it is regarded as an old national instrument. Some centuries ago it appears to have

been also very popular in some counties of England. Shakspeare alludes to the Lincolnshire bagpipe, in Henry the Fourth, Part I.

*Fal.* 'Sblood, I am as melancholy as a gib-cat or a lugged bear.

*P. Hen.* Or an old lion, or a lover's lute.

*Fal.* Yea, or the drone of a Lincolnshire bagpipe.

1028. '69.

**G**HAÏDA. Bagpipe, in three parts. The wood-work mounted in bone, and ornamented with metal inlaid; the pipes contain vibrating tongues. Modern. (Bought, Paris Exhibition, 1867, 14s. 6d.)

1012. '69.

**D**AÏRA. Tambourine, with five pairs of metal plates. The frame-work is of tortoise-shell, inlaid with mother-of-pearl. Modern. Diam.  $13\frac{1}{8}$  in. (Bought, Paris Exhibition, 1867, 8l.)

The tambourine is one of the most universally-favoured kinds of drum; at least, most nations possess a somewhat similar instrument, containing only one parchment instead of two. The tambourine common in most European countries consists of a rim made of wood, generally from two to three inches in breadth, and about fifteen inches in diameter. Fastened to the rim at regular distances, and in pairs, are small plates of brass. They are fixed loosely, so that they shake when the parchment stretched in the rim is made to vibrate. The performer holds the instrument in his left hand, and employs his right hand in beating the parchment, or in rubbing it with the fore-finger or the thumb. By rubbing it, a whirring and jingling noise is produced owing to the vibration of the brass plates. Expert performers, besides, increase the effect by a dexterous manner of turning the tambourine while they are striking it; by tossing it occasionally into the air, and catching it again; by making it spin on the point of the little finger; and by similar exhibitions of agility and skill.

The name "Tambour de Basque," by which this instrument is commonly known in France, was given to it, it is said, because the



people in Biscay use this drum especially. Probably it came in its present and more perfect construction originally from Spain. A more simple kind, undoubtedly was common in European countries long before the Arab invasion of Spain. The tambourine occurs in representations of the ancient Egyptian and Assyrian instruments.

At the end of the last century it was not unusual in France for ladies of the highest families to practise the tambourine, and to display at *soirées* their graceful dexterity and charming attitudes in handling the instrument, which was usually played in combination with the pianoforte or the harp.

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## ROUMANIA.



THE national music of the Wallachians and Moldavians exhibits some characteristic features which are chiefly owing to the peculiar rhythm, and to the prevalence of certain successions of musical intervals. It is especially the frequent occurrence of the interval called the *superfluous second*, which contributes to give the music of Roumania a peculiar stamp of its own. Many of the Wallachian airs are very expressive and beautiful; and, when compared with the Scotch, Irish, and other national airs well-known in England, they afford an interesting example of the diversity of expression revealed in the popular music of different races.

The itinerant musical bands in Wallachia are called *lautari*, the word for "musician" being *lautar*; the performers constituting a band are often gypsies. In Bucharest and its vicinity their little orchestra generally consists of a Pandean pipe, three or four violins, and the kobza,—a kind of lute, a specimen of which is in this collection. Besides the airs of the popular songs the *lautari* generally perform spirited dance tunes, and of these principally the *hora*, the national dance of Roumania, of which they have several beautiful compositions.

961. '69.



MOUNTAIN Horn. Wood bound with brass. Roumanian. Modern. L. 7 ft. 11 in. (Bought, Paris Exhibition, 1867, 16s.)

Horns, or rather trumpets, of this description are to be found in many countries, especially in mountainous districts, where they

are used by the herdsmen to convey signals, and to beguile their monotonous hours of leisure. The Swedes have an instrument of this kind, called *lure*. The *alp-horn* of the Swiss is known to many English travellers on the Continent. Herr van Hügel ('Kaschmir und das Reich der Siek,' Stuttgart, 1840) relates that in the north of Hindustan, especially in the Himalaya mountains, the herdsmen construct a long trumpet from the *Lilium giganteum*. A stalk of this plant, measured by him, was nine feet in length. The sounds produced by the Hindus on this tube reminded the traveller of the *alp-horn* of Switzerland. Also the Indians in some parts of South America construct a similar instrument.

962. '69.

**M**OUNTAIN Horn. Wood bound with brass. *Roumanian*. Modern. L. 7 ft. 5 in. (Bought, Paris Exhibition, 1867, 16s.)

The Mountain Horn of Roumania and Transylvania is almost identical in shape with the slightly-curved *alp-horn* of the Swiss in the Bernese Oberland. The compass of sound is made the same as that of our simple trumpet. On this instrument as well as on the horn the upper *f* is neither exactly *f-natural* nor *f-sharp*, for it is too high for the former and too low for the latter. Thus, in the following strains, which the Swiss are in the habit of blowing on the *alp-horn*, the notes marked with a *sharp* sound in reality as an interval between *f* and *f-sharp*.



The strains blown by the Wallachian herdsmen on their mountain horn are similar to those blown by the Swiss on the *alp-horn*, owing to the natural tones of the instruments.



958. '69.

**K**OBSA. A kind of lute. Wood painted. Ten strings, of which nine are of catgut, and one of silk covered with thin wire. With a plectrum consisting of a quill ornamented with filken tassels. *Roumanian*. Modern. L. 21 in., W. 11 in., depth of the body,  $8\frac{3}{8}$  in. (Bought, Paris Exhibition, 1867, 12s.)

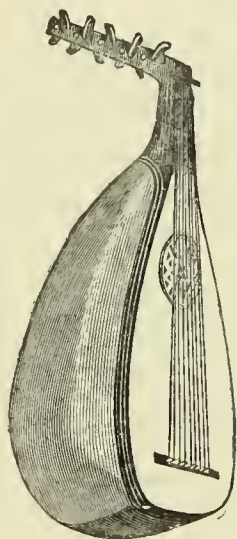


Fig. 124.—KOBZA.

A species of *kobza* with eight strings is an old popular instrument of the Russians. Likewise the Poles had formerly a *kobza* (or *kobza*). It was made of cornel wood, and had only three strings. When the famous warrior Prince Korecki of Poland was made prisoner by the Turks, about A.D. 1600, he, on entering Constantinople with his followers, played upon the *kobza*, to console his companions in misfortune, and to sustain his self-possession. And for a long time afterwards the Poles had the saying "As brave as Korecki."

960. '69.

**S**YRINX. Wood painted. Containing 25 tubes arranged in a curve. *Roumanian*. Modern.  $12\frac{1}{4}$  in. by  $10\frac{3}{4}$  in. (Bought, Paris Exhibition, 1867, 8s.)

The *Syrinx*, or *Pandean pipe*, is so universally diffused that it would be easier to name the countries in which it is not to be found than

those in which it is common. The present specimen from Roumania differs from most others with respect to shape; the tubes are generally fixed together in a straight line instead of in a curve. The *fyrinx* was known to the American Indians before our discovery of the Western Hemisphere. Well-preserved specimens have been found in tombs of the Inca Peruvians. It is probably the *ugab* of the Hebrews mentioned in the Old Testament. At any rate, it deserves to be classed with the most ancient wind-instruments still in use.

963. '69.

**D**UTKA. Bagpipe, in four parts. The woodwork inlaid with metal, and ornamented with various coloured fringes and spangles. *Roumanian*. Modern. L. 2 ft. 4 in. (Bought, Paris Exhibition, 1867, 1*l.* 8*s.*)

965. '69.

**D**UTKA. Bagpipe, in three parts. The woodwork inlaid with lead. *Roumanian*. Modern. L. 21½ in. (Bought, Paris Exhibition, 1867, 2*s.* 10*d.*)

966. '69.

**D**UTKA. Bagpipe, ornamented with beads and tassels. *Roumanian*. Modern. L. 2 ft. 10 in. (Bought, Paris Exhibition, 1867, 2*s.* 10*d.*)

967. '69.

**F**LAGEOLET. Made of wood. Six finger-holes. *Roumanian*. Modern. L. 14½ in. (Bought, Paris Exhibition, 1867, 10*d.*)

964. '69.

**F**LUTE. In three pieces. Stained wood bound with ivory; the finger-holes encircled with red colour. *Roumanian*. Modern. L. 2 ft. 5½ in. (Bought, Paris Exhibition, 1867, 8*s.*)

968. '69.

**S**ZOPELKA. A kind of hautboy, or Eastern *zourna*, with a brass tube for the mouth-piece, and fifteen finger-holes, seven of which are smaller than the others. *Roumanian*. Modern. L. 15 in. (Bought, Paris Exhibition, 1867, 10*d*.)

The *szopelka* is also a popular instrument in Southern Russia, where it is generally made of elder wood.

959. '69.

**T**AMBOURINE. The frame is of wood bound with brass. Six pairs of metal plates, and four pairs of little sleigh-bells are loosely attached to the rim. *Roumanian*. Modern. Diam.  $16\frac{1}{4}$  in., H.  $2\frac{3}{4}$  in. (Bought, Paris Exhibition, 1867, 1*l*.)

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## MUSICAL INSTRUMENTS,

MOSTLY ANTIQUATED, OF EUROPEAN COUNTRIES.



HERE prevails among musical antiquities a considerable diversity of opinion as to the exact nature of several of the musical instruments formerly in use in England and on the continent of Western Europe. One writer describes a certain instrument as a drum which another is sure was a bagpipe, and of which a third has not the least doubt that it could have been nothing else but a fiddle. This confusion is owing, it would appear, chiefly to the following cause.

It happened not unfrequently in olden time,—as is also sometime the case in our day,—that when a musical instrument fell into disuse, its name was applied to another of a later invention, though perhaps very different in construction from the former. The psalterium, for instance, depicted in old manuscripts of the Middle Ages, was a small kind of harp; but in the course of time its name was transferred to a kind of dulcimer, the construction of which may have been partly suggested by its old namesake. The *rote*, likewise an instrument of the Middle Ages, is by some writers described as a kind of guitar; while others assert it to have been a hurdy-gurdy (also called by old writers *lyra mendicorum*), and to have derived its name from its being constructed with a wheel (*rota*). Very probably both statements are correct. The French gave the name of *vielle* to the hurdy-gurdy as well as to the viol,—most likely on account of some resemblance in the outward appearance of the two instruments. Instances in which two instruments of different construction are named alike, merely because they are similar in shape, occur even in the present century. Thus, the German name of the harpsichord, *Flügel*, is now applied to the grand piano, the mechanism of which is totally different from that of the harpsichord. Sometimes the manner of producing the sounds was

evidently the cause of the same name being given to instruments of a different class. Thus, the *timpanon*, an antiquated stringed instrument of the Italians, and the *timpani*, or kettle drums, have nothing in common except that they are vibrated by means of sticks having a knob at one end. The word *cimbal* is used, as has already been stated, by some nations for the dulcimer, which is beaten like most instruments of percussion, whilst *cymbals* are instruments of metal employed in our orchestra, and especially in our military bands; the Italians giving the name of *cimbalo* also to the tambourine, or Tambour de Basque.

Besides, it was evidently in former times a usual practice with instrument makers, whenever they introduced some slight alteration in a popular instrument, to give their fabrication a new name, often selected with much more regard to business than to art and truth. Thus, we have many names, such as *clavicytherium*, *virginal*, *octavina*, *harpsichord*, *spinet*, *clavicymbal*, *gravicymbalum*,—all applying to instruments almost exactly alike in construction, the difference being chiefly in their shape.

As another source of confusion may be noticed the custom in vogue some centuries ago of constructing most kinds of wind and stringed instruments in sets of four, in order to make them correspond with the four human voices, treble, alto, tenor, and bass. Thus, there were four flutes, differing greatly in size, compass, and outward appearance. The same was the case with instruments of the violin class; these are not unfrequently mentioned by old writers as thus constituting “a chest of viols.”

These facts must not be lost sight of in an examination of any antiquated musical instrument preserved from past centuries; otherwise the result is likely to be perplexing if compared with a description of a specimen bearing the same name, which is given in some old book. Moreover, it is also evident that former writers occasionally noticed an instrument by a wrong name, just as it sometimes happens at the present day even with very intelligent writers.

The most effectual means of dispelling the apparent contradictions and discrepancies alluded to, is afforded by a collection of the actual instruments, like that here exhibited. In order to facilitate this object, some modern instruments are noticed in the following list with the obsolete ones of which they bear the names, or of which they are the offspring.

1650-1650 c. '71.



**WHISTLES.** Four. Glazed earthenware, blue and yellow, in shape of jars. *Austrian (Znaim in Moravia).* Various dimensions. From the Annual International Exhibition, 1871. (Given by Franz Slowak, Esq.)

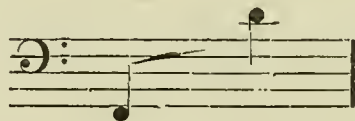
105-105 g. '71.

**WHISTLES.** Eight. Earthenware, six glazed and two unglazed, in form of horsemen, &c. *Spanish (Andujar).* 1870. Various dimensions. (Bought, 1s. 2d.)

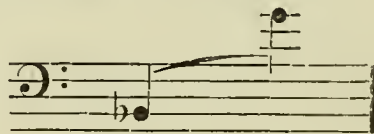
7469. '61.

**FLAUTO Dolce.** Flute. Ivory, decorated with foliage carved in low relief. *Italian.* Signed and dated, "Anciuti a Milan, 1740." L. 1 ft. 6½ in. (Bought, 1l. 4s. 2d.)

The *Flauto dolce* (French *flûte douce*, and *flûte à bec*), much in use some centuries ago, was made of various lengths. The Germans called it *plochflöte*, i.e. a flute with a plug in the mouth-hole. That which emitted the deepest tones, or the Bass Flute, had the following compass :—



The Tenor Flute had this compass :—



The Bass Flute was of so great a length that, in order to enable the performer to reach the finger-holes, a bent tube was affixed to the mouth-hole, somewhat similar to that of the bassoon. The most



common *flûte à bec* was made with six finger-holes, and its compass embraced somewhat more than two octaves, thus :—



Several of the finger-holes required to be only partly covered in order to produce the desired tone. There was often a key on this instrument in addition to the finger-holes. This flute was much in favour in England; hence it was called in France “*Flûte d’Angleterre*.” It has gradually been supplanted by the “*Flûte traversière*,” or “*German Flute*.” The *flageolet*, the smallest *flûte à bec*, was formerly played in England even by ladies. Pepys, in his Diary (March 1st, 1666), records :—“*Being returned home, I find Greeting, the flageolet-master, come, and teaching my wife; and I do think my wife will take pleasure in it, and it will be easy for her, and pleasant.*”

The *flageolet* was made of various sizes. Pepys (Diary, January 20th, 1667) records :—“*To Drumbleby’s, the pipe-maker, there to advise about the making of a flageolet to go low and soft; and he do show me a way which do do, and also a fashion of having two pipes of the same note fastened together, so as I can play on one and then echo it upon the other, which is mighty pretty.*”

1124. '69.

**F**LAUTO Dolce, or *Flûte à bec*. Tortoise shell, inlaid with gold piqué. *Italian*. 17th century. From the collection of the composer Rossini. L. 1 ft. 8 in. (Bought, 24*l.*)

1127. '69.

**O**BOE. Carved ivory. Made by Anciuti, of Milan. *Italian*. 18th century. This instrument was formerly in the possession of the composer Rossini. L. 1 ft. 9½ in. (Bought, 40*l.*)

The most noteworthy kinds of the hautboy at the time of Handel and Sebastian Bach are,—the *oboe da caccia*, which is identical with the *Corno Inglese* (*English horn*, *Cor Anglais*), a large hautboy still occasionally employed in the orchestra, and the *oboe d’amore*, or *oboe luongo*, which has fallen into oblivion. The pitch of the *oboe d’amore* was a minor

third lower than that of the common hautboy, or *oboe piccolo*; and its sound, owing to the narrowness of the bore at its further end, was rather weak, but particularly sweet.

808. '69.

**O**BOE. Old species of hautboy. Boxwood, carved with a design of figures and foliage. Ten finger holes and three keys; some of the finger-holes are placed side by side in pairs. On the tube is stamped the German name "W. Beuker." *Italian.* 17th century. L. 1 ft.  $10\frac{3}{4}$  in. (Bought, Paris Exhibition, 1867, 121.)

The precursor of this instrument was evidently the *bombardino*, or *chalumeau*. The *bombardino*, also called in Italian *bombardo piccolo*, was a small *bombardo*, an instrument of the hautboy kind, about three centuries ago much in use on the continent.

The Germans called the *bombardo* "Pommer," which appears to be a corruption of the Italian name. The *bombardo* was made of various sizes, and with a greater or smaller number of finger-holes and keys. That which produced the bass tones was sometimes of an enormous length, and was blown through a bent tube, like the bassoon, the invention of which it is said to have suggested.

The smallest instrument of this kind, called *chalumeau* (from *calamus*, "a reed"), is still occasionally to be found among the peasantry in the Tyrol and some other parts of the Continent. The Germans call it *schalmey*, and the Italians *piffero pastorale*. In England it was formerly called *shawm* or *shalm*.

The *hautboy*, which is an offspring of the *chalumeau* called *bombardino*, came into more general use about the year 1720.

The *clarinet*, likewise an instrument of this class, is said to have been invented by Denner, in Nürnberg, about the year 1700. The clarinet has only a single vibrating reed in the mouth-piece; the hautboy has a double one.

637. '72.

**B**ASSOON, species of. Bound with brass, with brass keys, and complete with mouth-piece and reed of the period. *English.* Late 18th or early 19th century. L. 4 ft.  $\frac{1}{2}$  in. (Given by Mr. T. Cabban.)

The invention of the *bassoon* (Italian, *fagotto*; French, *basson*; German, *fagott*) is ascribed to Afranio, a canon of Ferrara, who constructed the first in the year 1539. The instrument was, however, an improved *bombardo* rather than a new invention. As early as the year 1550, the celebrated wind-instrument maker Schnitzer, in Nürnberg, manufactured bassoons which were considered as very complete.

Various bassoons of small dimensions in use about two centuries ago, and earlier (the *dolciano*, *quartfagott*, *quintfagott*, *tenor-bassoon*, *corthol*, &c.), are now antiquated. The compass of our present common bassoon extends above three octaves, thus:—



The largest species, called double-bassoon (*contra-fagotto*) sounds an octave lower than the common one; it, therefore, extends a fourth lower than the four-stringed double-bass, and is, in fact, the deepest-toned instrument in our orchestra. Beethoven has employed the double-bassoon effectively in the famous duet of Leonore and Rocco digging the grave of Florestan, in his opera *Fidelio*; likewise in his C-minor and Choral symphonies.

In the list of musical instruments of Sir Thomas Kytson, of Hengrave Hall, about the year 1600, recorded in the 'History and Antiquities of Hengrave, Suffolk,' by John Gage, London, 1822, is mentioned "A Curtall," which was probably the *corthol* or French *courtaut*, an early kind of bassoon, a specimen of which, dating from the fifteenth century, is preserved in the Conservatoire de Musique at Paris. According to Prætorius (anno 1619) the *fagotto piccolo*, a small species of bassoon, was called in England *single corthol*.

7953. '62.

**O**LIPHANT. Ivory. Carved with interlaced ornament, containing beasts and birds. *Byzantine*. 11th century. L. 2 ft. 1 in., diam.  $5\frac{1}{2}$  in. (Bought, Soltikoff Collection, 1937.)

The *oliphant* was used in the Middle Ages by the knights for conveying signals in war and in the chase; and by the warders of castles for announcing the arrival of strangers of distinction, or for giving the



alarm in case of danger. It was, besides, not unfrequently made use of as a drinking vessel at feasts; and, probably for this reason chiefly, it was often richly ornamented with precious metals and elaborate carvings. The *oliphant* evidently derived its name from the circumstance of its being very usually made of ivory; at all events, the elephant is called by old writers *olifaunt*, *ollivant*, and *olyfaunce*. As regards the custom of using musical horns as drinking vessels on festive occasions, we find in Brand's 'Popular Antiquities' that it formerly prevailed in England on the first of May.

7954. '62.

**O**LIPHANT. Ivory. Carved with foliage and hunting subjects; mounted in silver. *German*. 15th century. L. 2 ft. 2 in., diam. 5 in. (Bought, Soltikoff Collection, 265*l*.) (See the engraving, Fig. 125.)



Fig. 125.—OLIPHANT.

8035. '62.

**O**LIPHANT. Ivory. Plain surface encircled by two raised bands carved with figures of men and animals in low relief. *Byzantine*. 11th century. L. 1 ft. 9 in., diam. 4½ in. (Bought, 35*l*.)

1274. '72.

**H**UNTING Horn. Ivory; curved, with two silver bands and rings, and a brass wire chain for suspension. *German*. Early 18th century. L. between extremities 8½ in. (Bought, 10*s*.)

1255. '72.

**H**UNTING Horn. Ebony; straight, carved in relief with dogs chasing deer, and with foliage. On one side is a gilt cruciform plate with remains of a ring for suspension. *German.* 17th century. L.  $11\frac{7}{8}$  in., greatest Diam.  $1\frac{3}{8}$  in. (Bought, 2*l.*)

1602. '55.

**H**UNTING Horn. Iron. Embossed with scroll foliage. *German.* 16th century. L. 12 in. Also an electrotype reproduction of the same by Messrs. Franchi and Son.

'57. 16.

**H**UNTING Horn. Semicircular, with two gilt mounts ornamented with arabesques in relief. Electrotpe reproduction, by Messrs. Franchi and Son, from the original, in ivory, in the possession of A. Fountaine, Esq. *Italian.* 16th century. Diam. 15 in.

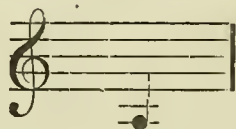
810. '72.

**F**ORESTER'S Horn. Copper, with brass bell and horn mouth-piece. Leathern straps attached. *English.* 17th century. L. 40 in. (Given by G. Moffat, Esq.)

1123. '69.

**C**ORNETTO Curvo. Ivory. Six finger-holes on one side; and a seventh, for the thumb of the left hand, on the opposite side. *Italian.* 16th century. L. 1 ft.  $9\frac{1}{2}$  in. (Bought, 10*l.*)

The *cornetto curvo* (German *zinken*, French *cornet à bouquin*) was generally made of wood covered with black leather. Its compass usually comprised fifteen tones, the lowest of which was—



There were, however, in use instruments of this kind of various sizes. The present specimen is one of the smaller kinds. In Germany the *zinken* was still employed in the beginning of the eighteenth century by the town bands in playing chorales, on certain occasions, on the tower of the parish church.

73. '65.

**C**ORNET à Bouquin. (Italian, *cornetto curvo*.) Ivory carved on one side in low relief with cupids engaged in hunting. On this side is a finger-hole for the thumb. On the opposite side are six finger-holes. *French*. About 1550. L. 1 ft. 1½ in. (Bought, Pourtales Collection, 42*l*.) (See Fig. 126.)



Fig. 126.—CORNET À BOUQUIN.

Although the *zinken* is blown through a mouth-tube somewhat similar to that of the trumpet, it has finger-holes like a flute. Its sound is harsh, and would be unpleasant in a room, but the *zinken* was intended for the open air, and for performing chorales on the towers of churches, so that all the people in the town could hear the solemn music. They were, in fact, compelled to hear, for it vibrated through the air over their heads like the church bells themselves. Thus the *zinken* may have served its purpose well in olden time, notwithstanding its harshness of sound.



394. '71.

**M**USETTE. A bagpipe. Velvet bag with silk trimmings, the pipes of ivory with white metal keys. *French.* 18th century. L. of bag 23 in., L. of longest pipe 11½ in. (Bought, 10*l.*)

A little pair of bellows belonging to this bagpipe is wanting.

According to Merfenne, who lived in the beginning of the seventeenth century, the *musette* had at his time attained to a somewhat high degree of perfection in France, and the sweetness of its sound is warmly commended by him. He gives a drawing of a *musette* with only one chanter, which had apertures for twelve tones, besides some double apertures, and valves opened by keys. The *musette*, as it was constructed in France more than a century ago, consists of a bag made of sheep's skin, of two chanters (French, *chalumeaux*), which are of different lengths, and are supplied with keys; of a drone (French, *bourdon*) with several reeds; and of a pair of bellows. The most remarkable part is the *bourdon*. It is, properly speaking, a combination of four drones, since four reeds are contained in a barrel. The French had, about two or three centuries ago, another bagpipe provided with bellows. This instrument, which was called *loure*, and of which but little is known, may have been a *musette* of a more simple construction than that just described. The names *loure* and *musette* were also given to French dances usually performed to the music of the bagpipes. Handel and Sebastian Bach have written some very fine compositions in imitation of these dance tunes. In the bass accompaniment the tonic, or the dominant, is generally sustained during the extent of a musical phrase, to imitate the effect of a drone.

The brothers Chedeville are considered as the most distinguished players on the *musette* which France has possessed. The elder brother, Esprit-Philippe Chedeville, was engaged in the year 1725 at the Opera in Paris as 'Joueur de Musette.' He, as well as his younger brother, Nicolas Chedeville, published several compositions for bagpipes and hurdy-gurdies.

Another bagpipe with bellows, the *fourdeline*, which was used in France about three centuries ago, is, according to Merfenne, of Italian origin. The Italians call it *furdelina*, and it was formerly popular, especially in Naples.

**G**LASS Harmonica. Modern. Made by E. Pohl, in Bohemia. L. 4 ft. 1 in., H. 3 ft. (Bought, 15*l.* 15*s.*) Deposited in the Educational Department.

The Glass Harmonica consists of a series of glass bells, which are affixed in regular order to an iron spindle lying horizontally in a case, and which by simple machinery are set in motion by the feet. The sound is produced by the performer moistening his fingers and pressing them on the bells while these are rotating.

The Glass Harmonica is an invention of Benjamin Franklin, the celebrated American. It suggested itself to him while witnessing an Irishman performing on a set of drinking glasses in some tavern. In a letter of his to Padre Beccaria, in Turin, dated July 13th, 1762, which contains a detailed account of his invention, and which has been published in the collection of his works, he says:—"In honour of your musical language I have borrowed from it the name of this instrument, calling it *Armonica*." Franklin presented his invention to a musical family of the name of Davies, with whom he was related. Miss Marianne Davies performed on the instrument at public concerts in London, Paris, Vienna, and Florence, and the fascinating purity of the sound, as well as her skilful execution, were greatly admired. However, the constant practice so much weakened her nerves, that she was, after some years, compelled to relinquish the cultivation of music altogether. Also the German composer Naumann, an enthusiastic admirer of the Glass Harmonica, found it necessary to restrict himself in practicing it, on account of its injurious effect upon the nerves.

Various attempts have been made further to improve Franklin's invention. Thus, it has been provided with a bow, in order to obtain the sound by friction, as on the violin; and also with little pegs having at the end a small pad formed of sponge, and with a key-board like the pianoforte. But none of these expedients have proved so effective as the original method of vibrating the glasses with the moistened fingers; at least, this is declared by most judges to be the best means of modifying the sound for various degrees of loudness and expression.

Soon after its invention the Glass Harmonica appears to have produced some sensation in fashionable circles in London; for in the 'Vicar of Wakefield,' written in the year 1761, Dr. Primrose, relating the visit of the two fine ladies from town, says, "The two ladies threw my girls quite into the shade; for they would talk of nothing but high life, and high-lived company, with other fashionable topics, such as pictures, taste, Shakespeare, and the musical glasses."

220. '66.

**V**IELLE. (English, *hurdy-gurdy*; German, *leyer* or *bauernleyer*; Italian, *lira rustica*, or *lira tedesca*.) Wood, lacquered and decorated, in black outlines and occasional colour, with hunting scenes and arabesques; also with the arms of France, and crowned monogram of Henri II. on back and front. Ten keys and six tuning-pegs. The key-board and keys of ebony and ivory; near the handle are monograms of Catharine de' Medicis. *French*. About 1550. L., including handle, 1 ft. 10½ in., W. 8¼ in. (Bought, 127*l*.) (See Fig. 127.)

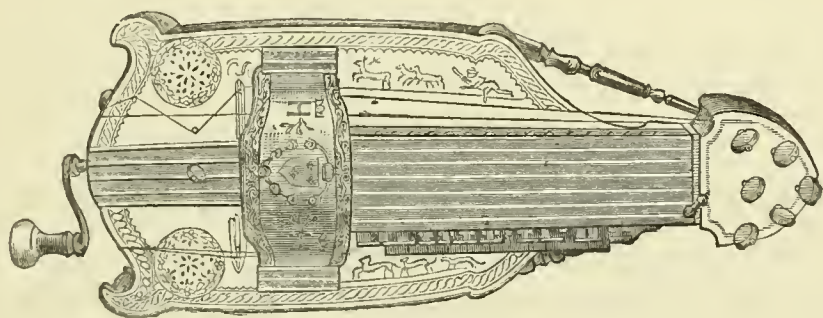


Fig. 127.—VIELLE.

95. '70.

**V**IELLE. A hurdy-gurdy. Inlaid with tortoise-shell and gold piqué work, and set with pastes. The handle formed of a female figure of carved ivory and wood. *French*. 18th century. L. 21¾ in., W. 5½ in. Bought, 31*l*. 10*s*.

364. '64.

**V**IELLE. Hurdy-gurdy. Dark wood, with foliated ornament in low relief; ten keys and five pegs. *French*. About 1680. L., including handle, 1 ft. 8 in., W. 6¾ in. (Bought, 8*l*.)

The hurdy-gurdy is still in use, especially among the itinerant Savoyards, who perform in the streets of London and Paris. Its sound



is produced by friction, caused by a wheel against catgut strings ; and it is played by means of a key-board. Of the *organistrum*, a large kind of hurdy-gurdy, a representation is given, page 103 (Fig. 86), derived from a manuscript of the ninth century. The *organistrum* had three strings, producing three different tones, which appear to have consisted of the tonic, fifth, and octave. These three intervals sounded simultaneously. However painful a succession of these combined tones may appear to us, it is well known that at the time of Hucbald, A.D. 900, it was admired. If a conclusion may be drawn from such historical facts, it seems not at all improbable that there may come a time when many of the harmonious contrivances admired at the present day will be found as objectionable as we now find those consecutive fifths and octaves of Hucbald. Only expressive melody remains always beautiful, for it is natural, direct from the heart, and therefore eternally true.

577. '72.

**V**IELLE. Hurdy-gurdy. Wood, with marquetry of plain and coloured ivory and mother-of-pearl. The neck is diapered and terminates in a carved female head. Signed by Varquain of Paris, and dated 1742. *French.* 18th century. L. 26 in., W. 10. (Bought, 12*l.*)

About the middle of the eighteenth century the hurdy-gurdy was played at public concerts in Paris, and even ladies practised it occasionally. Charles Baton, a distinguished virtuoso on the hurdy-gurdy, extended its compass to that of the flute, and introduced other improvements, of which he published an account, in the year 1752, entitled 'Mémoire sur la Vielle en D-la-ré, dans lequel on rend compte des raisons qui ont engagé à la faire, et dont l'extrait a été présenté à la reine.' Henri Baton, the celebrated virtuoso on the *musette*, was an elder brother of Charles Baton.

The French made the hurdy-gurdy in the shape of the lute as well as in that of the guitar. The *vielle en luth* has the fuller tone of the two ; however, a good *vielle en guitare* is considered sweeter in tone.

The following titles of compositions, now very scarce, which were published in Paris during the first half of the eighteenth century, convey an idea of the former employment of the hurdy-gurdy in combination with other instruments :—' Les Pantomimes Italiennes dansées à l'Académie Royale de Musique ; mises pour la Musette, Vielle, Flûte traversière et

Hautbois, par Monfieur Chedeville, Cadet, Hautbois de la Chambre du Roi ; Paris. Concerts Champêtres pour les Mufettes, Vièles, Flutes, et Hautbois, avec la Baffe ; par M<sup>r</sup> Chedeville l'Ainé, Hautbois de la Chambre du Roy, Paris. Deuxième Oeuvre de M<sup>r</sup> Braun, contenant fix Suites à deux Muzettes, qui conviennent aux Vieles, Flûtes à bec, Traverfières, et Hautbois ; Paris, 1740. Trente-troisième Oeuvre de M<sup>r</sup> Boismortier, contenant fix Gentilleffes, en trois parties, pour la Mufette, la Viele, et la Baffe ; Paris, 1731. Huitième Oeuvre de M<sup>r</sup> Naudot, contenant Six Fêtes Ruftiques pour les Mufettes, Vieles, Flûtes, Hautbois et Violino, avec la Baffe ; Paris, &c.

264. '66.

**D**ULCIMER. The frame of wood, carved, gilt, and painted with an armorial shield in front. With twenty-fix fets of metal ftrings. *Italian.* 17th century. Width of front, 2 ft. 8½ in., depth of fide, 1 ft. ¾ in. (Bought, 3*l.* 4*s.*)

Most of the fets contain five ftrings tuned in unifon ; thofe which are the longeft contain four ftrings. Most of the ftrings run over two bridges ; the four fhorteft have only one bridge, which is placed in the middle. The inftrument is played with two little hammers, like the *fantir*, defcribed at page 205. The Italians had formerly dulcimers of various kinds,—as for instance, the *salterio* (Engliffh *psaltery* or *sawtry*), the *citole*, the *timpanon*. The *salterio* was ufually played with *pleetra* affixed to the fingers ; but the Italians had alfo a *salterio tedefco*, or “German dulcimer,” which was played with two little hammers.

In England the dulcimer contained, even as late as the eighteenth century, only the intervals of the diatonic fcale, extending to three octaves, thus :—



The Engliffh dulcimer was ufually mounted with about fifty ftrings, moft of the tones having two ftrings tuned in unifon. The German dulcimer, called *hackbret*, was tuned, about the end of the eighteenth century, according to the chromatic fcale. The hammers were covered at one end with hard leather, and at the other end with foft leather, or

with felt. This contrivance enabled the performer to play effectively *forte* and *piano*. The dulcimer still in use with the gipsies in Hungary and Transylvania is of the same construction.

4. '69.

**D**ULCIMER. Wood, painted and gilt. *Italian*. 17th century. Greatest W. 2 ft. 10½ in., smallest W. 1 ft. 5 in. Oblique L. 1 ft. 4 in. (Bought, 20*l.*)

147. '69.

**D**ULCIMER. *Italian*. 17th century. Greatest W. 2 ft. 2½ in., smallest W. 1 ft. 1¾ in. Oblique L. 1 ft. 1½ in. (Bought, 2*l.* 10*s.*)

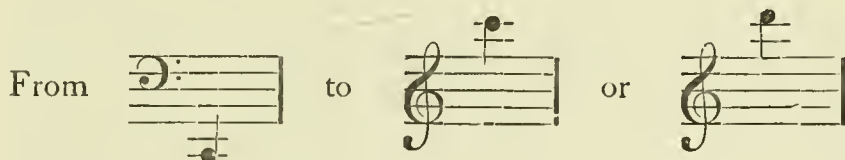
4087. '57.

**H**ARP. Wood, carved and gilt in the style of Gouthière, and decorated with oak foliage and acorns; at the top of the pillar is a figure of a cupid. *French*. Period of Louis XVI. H. 5 ft. 3 in., W. 2 ft. 6 in. (Bought, 16*l.*)

The small harp of the middle ages of Central and Western Europe, depicted in old sculptures and paintings, generally exhibits the front-bar of its frame somewhat bent outwardly, much as is the case with the Irish *clarsfeth*. Gradually the number of its strings was increased; and, likewise the strength of the frame for resisting the tension of the strings. The front-bar of our harp is straight, or a front-pillar. Until the seventeenth century only the diatonic series of intervals was properly obtainable on the instrument. The performer had, however, a method of producing occasionally a semitone by pressing the finger against the string towards the end, much in the same manner in which the Burmese produce chromatic intervals on the *soung*. Towards the end of the seventeenth century the Tyrolian harp makers adopted little plates with hooks, which could be moved so as to press upon the strings, and there-

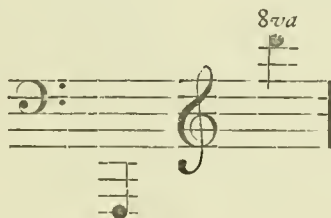


by shorten them, for the production of the semitones, more rapidly and unerringly than could be done by the fingers. The compass of the harp extended at that time to four octaves, generally—



The hooks were first introduced between the strings *c-d*, *f-g*, and *g-a*; which enabled the performer to obtain the tones *c-sharp*, *d-sharp*, *f-sharp*, *g-sharp*, and *a-sharp*, or *d-flat*, *e-flat*, *g flat*, *a-flat*, and *b-flat*. This contrivance was gradually more perfected by placing a hook between every string. The hooks could be regulated to ensure the diatonic scale of any major or minor key in which the piece to be performed was composed. But, if modulations occurred in the piece necessitating the introduction of another scale than that previously prepared, the hooks had to be re-arranged. As this had to be done in the course of a piece with the hands which were otherwise sufficiently engaged, the procedure often proved troublesome, and an interruption in the execution.

This inconvenience was, in great measure, obviated by the invention of the Pedal-Harp (German *Pedal-Harfe*), in the year 1720, by Hochbrucker, in Donauwörth, Bavaria. At the foot of the frame he attached five pedals, afterwards increased to seven, which, through the channel of the hollow front pillar, were connected with the mechanism at the top of the frame, by means of which the hooks are caused to touch the strings. In Hochbrucker's pedal harp, each interval of the diatonic scale has a pedal, which, when used, raises it a semitone in all its octaves simultaneously. Thus, if the pedal which alters *f* into *f-sharp* is used, it acts upon all the *f* strings in the same way. The compass extends to five octaves and a sixth, thus :—



Without the employment of the pedals the strings give the diatonic scale of E-flat-major.

In the year 1810, Sébastien Erard, in Paris, greatly improved the pedal harp by his invention of the *double mouvement*, which enables the performer to raise each diatonic interval of C-flat-major, in which the

harp is tuned, either one or two semitones at pleasure. Erard's Double-Action Harp embraces six octaves and a fourth, thus:—



The first action of the seven pedals successively causes the scale of C-flat-major to be transformed into the scales of G-flat, D-flat, A-flat, E-flat, B-flat, F and C-major; and the second action ensures the scales of G, D, A, E, B, F-sharp, and C-sharp-major.

4449. '58.

**H**ARP. Wood, sculptured with cupids, festoons, &c.; painted with arabesques, and gilt. *French.* Period of Louis XVI. H. 5 ft. 3 in., W. 2 ft. 6 in. (Bought, 4*l.* 10*s.*)

8531. '63.

**H**ARP. Wood, carved and gilt, the pillar decorated with wreaths of flowers and trophies of musical instruments; at the foot two cocks, at the top a mask surmounted by a terminal figure of a cupid. The sounding-board painted with male and female figures resting on clouds and playing on various musical instruments. *French.* Period of Louis XVI. Said to have belonged to Queen Marie Antoinette. H. 5 ft. 5 in., W. 2 ft. 8 in. (Given by Sir Charles Wheatstone.)

16. '71.

**H**ARP. Wood; the pillar and top carved with flowers and festoons, the sounding-board painted with landscapes and trophies. *French.* About 1770–80. H. 5 ft. 3½ in., W. 2 ft. 6 in. (Given by Mrs. E. Richards.)



HARP.

*French. Said to have belonged to Queen Marie Antoinette.*

8531. '63.





1740. '66.

**H**ARP. Carved work of faces, masks, &c., by Grinling Gibbons. Stated to have belonged to Charles II. *English*. About 1670. L. of front pillar 6 ft. 3½ in., L. of body, 4 ft. 5 in. (Given by Messrs. Joseph Kirkman and Son.)

'52. 11.

**T**HE Harp of Brian Boiroimhe. (Plaster cast.) The original, of wood mounted with silver and set with crystals, is in the Museum of Trinity College, Dublin. *Ancient Irish*. H. 3 ft. 2 in., W. 1 ft. 7 in.

The instrument from which this cast has been taken is of extraordinarily good workmanship. The sounding-board is of oak, and the frame of red sally. The extremity of the highest part of the frame in front is capped with silver finely wrought and chiselled, and contains a large crystal set in silver, beneath which was another stone, now lost. The ornamental knobs, or buttons, at the sides of this part of the instrument are of silver. On the front pillar are the arms of the O'Brien families, chased in silver, viz., the bloody hand supported by lions. On the sides of the front pillar, within two circles, are two Irish wolf dogs, cut in wood. The holes in the sounding-board, into which the strings enter, are neatly ornamented with escutcheons of brass carved and gilt. The large sounding-holes have been ornamented, probably with silver, as the ornaments have been abstracted. The foot-piece is broken off, and the parts to which it was joined are much decayed. The instrument has twenty-nine strings.

The chief interest attached to this harp consists in its having originally belonged, it is believed, to Brian Boiroimhe, the famous Irish monarch, who came to the throne in the year 1001, and who, having vanquished the intruding Danes and Northmen, applied his energies to repairing the ravages committed by them, and in promoting the prosperity and social improvement of his people. As he is known to have been greatly devoted to music, "Brian the Brave" is usually depicted in the attitude of leaning on the harp.

As regards the instrument in question, the following tradition has been transmitted to us:—

Brian Boiroimhe's harp, together with his crown and other regalia, was taken by Donagh, his son, to Rome (to which place Donagh fled

after having murdered his brother Teige), and presented by him to the Pope, in order to obtain absolution. Adrian the Fourth, a later Pope (by name Brakspeare, and an Englishman), alleged this circumstance as one of his principal titles to the sovereignty of Ireland, in his bull transferring that kingdom to King Henry the Second. These treasures were deposited in the Vatican until Pope Leo X. sent the harp to King Henry the Eighth, with the title of Defender of the Faith, retaining the crown, which was of massive gold. Henry the Eighth had the harp adopted in the national arms of Ireland, and represented on the Irish coins. Setting, however, no particular value on Brian Boiroimhe's harp presented to him by the Pope, he gave it to the first Earl of Clanricarde, in whose family it remained till the beginning of the eighteenth century, when it came by a lady of the De Burgh family into that of MacMahon, of Clonagh in the county of Clare. After the death of MacMahon it passed into the possession of Counsellor Macnamara, of Limerick; and finally, in 1782, it was presented by the Right Hon. William Conyngham to Trinity College Museum, Dublin.

According to another tradition, this harp belonged originally to the illustrious sept of O'Neil, who flourished in the fourteenth century.

The Irish name for "harp" is *clarfeth*.

616. '72.

**I**RISH Harp (*Clarfeth*). Wood, of plain construction, with forty-one wire strings. *Old Irish*. Date unknown. H. 4 ft. 4 in., W. 3 ft. 7 in. (Given by the Ven. Archdeacon Saurin.)

This interesting instrument belonged formerly to a celebrated Irish harper. A similar one, which is in the possession of the Marquess of Kildare, bears the date 1671.

Considering the scarcity of the old Irish *clarfeth*, mention may be made of a fine specimen formerly in the collection of Irish antiquities belonging to Thomas Crofton Croker, from which it was purchased, in the year 1854, at an auction in London, by Thomas Bateman, Esq. It bears on its front the inscription, *Made by John Kelly for the Rev. Charles Bunworth Baltdaniel, 1734*. At the contentions or meetings of the bards of Ireland, between the years 1730 and 1750, which were generally held at Bruree, county Limerick, the Rev. Charles Bunworth was five times chosen umpire, or president. Although this harp is not of high antiquity, it is an interesting example of the ancient form and



construction, and likewise of the ancient manner of ornamenting the instrument. A wood engraving of it, from a drawing by Maclise, is given in 'A Descriptive Catalogue of the Antiquities and Miscellaneous Objects preserved in the Museum of Thomas Bateman, at Lomberdale House, Derbyshire,' Bakewell, 1855. An account of the Irish harps deposited in the Museum of Dublin is to be found in 'A Descriptive Catalogue of the Antiquities in the Museum of the Royal Irish Academy,' by W. R. Wilde, Dublin, 1863. The illustrations of the Irish harp in the works of Bunting and similar writers may be supposed to be known to musicians.

The number of strings appears to have been greater on the older specimens recorded than on the later ones. Prætorius, in his 'Syn- tagma musicum,' &c., vol. ii., Welfenbüttel, 1619, gives an illustration of the Irish harp, in which it is represented with forty-three strings. He describes the instrument as having a pleasant resonance, and being constructed with a considerable degree of ingenuity. The illustration exhibits the same shape, with the fore-bar bent outwards, which is shown in the present specimen.

Some harps after the model of the old Irish *clarsfeth*, which are painted and gilt, were made in Dublin in the beginning of the present century.

1125. '69.

**L**UTE. (Italian *liuto*.) Wood and ivory. The finger-board of marquetry of rosewood. The head stands at a right angle with the neck. It has twenty-one strings, forming ten pairs, and a single one, which is the highest string. *Italian (Venice)*. Beginning of the 17th century. H. 2 ft. 8 in., W. 1 ft. (Bought, 40*l*.)

The Eastern origin of the *lute* has already been noticed in the description of the Egyptian *oud*, page 142.

The most noteworthy books of instruction for the lute are by Johannes Judenkunig, Vienna, 1523; Hans Gerle, Nürnberg, 1533; Adrien le Roy, Paris, 1551; Jean Baptiste Befardus, Cologne, 1603; François Campion, Paris, 1710; Erenst Gottlieb Baron, Nürnberg, 1727. 'Musick's Monument,' by Thomas Mace, London, 1676, contains instructions on the lute, theorbo, and viol, with engravings. The most popular English instruction book for the lute appears to have been a translation of Le Roy's work, of which a copy preserved in

the British Museum is entitled: 'A briefe and plaine Instruction to set all Musicke of eight diuers tunes in Tableture for the Lute; with a briefe Instruction how to play on the Lute by Tablature, to conduct and dispose thy hand vnto the Lute, with certaine easie lessons for that purpose; and also a third Booke containing diuers new excellent tunes. All first written in French by Adrian Le Roy, and now translated into English by F. Ks. [Kyngston], Gentleman; London, 1574.' This work contains illustrations representing the lute of the sixteenth century, mounted with eleven strings; viz., five pairs and the *chanterelle*. Another book on the lute, in the British Museum, is entitled: 'The Schoole of Mvficke: wherin is taught the perfect Method of true fingering of the Lute, Pandora, Orpharion, and Viol da Gamba, with most infallible generall rules, both easie and delightfull. Also a Method how you may be your owne instructor for Prick-song, by the help of your Lute, without any other teacher: with lessons of all sorts for your further and better instruction, Newly composed by Thomas Robinson, Lutenist. London, 1603.' The book is written in the form of a dialogue between "Knight" and "Timothevs."

391. '71.

**L**UTE. Wood, painted, with carved head. Two sound-holes with ornamental "roses." *Italian*. About 1600; but the instrument has been altered, and the carved head has been added at a later date. L. 3 ft.  $5\frac{1}{8}$  in., W.  $14\frac{3}{4}$  in. (Bought, 6*l.*)

7756. '62.

**T**HEORBO. A kind of lute. Marquetry of wood and ivory; the body in broad bands; the finger-board in arabesques. Two sets of ivory tuning-pegs, the lower set containing twelve, and the higher eight. *Italian (Venice)*. 16th century. L. 3 ft. 6 in. (Bought, 8*l.*)

The name of this instrument (*Italian*, *tiorba*; *French*, *théorbe*; *English*, *theorbo* and *thiorba*) is, according to some accounts, derived from the name of its inventor, a Signor Tiorba. According to others it was invented by Bardella, an Italian, about the year 1600; others again attribute its invention to Hottemann, a German, who excelled as a performer on this instrument in France, about 1650. Probably all

these persons merely introduced some improvements in this species of lute, which is of older date than has generally been supposed. Mace, in his 'Mufick's Monument,' London, 1676, says, "The Theorboe is no other than that which we call'd the Old English Lute." The Germans called it *Baßlaute*, on account of its deep tones.

The *theorbo* differs from the lute chiefly in having two sets of tuning pegs, the uppermost of which contains the pegs for eight bass strings, which are of considerable length and power. The *theorbo* was used, some centuries ago, for accompanying vocal music in the opera, as well as in sacred compositions. In France it was much in favour during the reign of Louis XIV.

1126. '69.

**T**HEORBO. Ebony and ivory, with incised landscapes. It has two sets of tuning-pegs, each set containing fourteen pegs. On the neck is the figure of a crown, and inside the body is the inscription—"Matteo Sellas alla Corona, Venetia, 1630." *Italian*. First half of 17th century. L. 3 ft. 9½ in., W. 12⅝ in. (Bought, 40*l*.)

9. '71.

**T**HEORBO. Ivory; the neck of ebony, the back of which is inlaid, and otherwise ornamented with ivory, and inscribed, *Rauche in Chandos Street, London, 1762*. There are two sets of tuning-pegs, numbering 10 and 14 respectively. *English*. 18th century. L. 4 ft. 1½ in., W. 14½ in. (Bought, 25*l*.)

7755. '62.

**C**HITARRONE. A theorbo. Wood, inlaid with strips of ivory and plaques of mother-of-pearl. Two sets of tuning pegs, the lower set containing twelve, and the higher, which is about two feet distant from the lower, eight. *Italian*. About 1600. L. 5 ft. 7 in. (Bought, 10*l*.)



The *chitarrone* is a theorbo with an extraordinarily long neck, by which the length of the eight bass strings is considerably increased. The largest instruments of this kind were made some centuries ago, in Rome. They were used in the theatre for accompanying the voice, before the Clavicembalo, or Harpsichord, was introduced for this purpose. The finest instruments of the lute kind were made in Italy, especially at Bologna, Rome, Venice, and Padua. Many of the manufacturers in Italy were, however, foreigners. Evelyn, in his Diary (May 21, 1645), speaking of Bologna, says, "This place has also been celebrated for lutes made by the old masters, Mollen [Maler?], Hans Frey, and Nicholas Sconvelt, which were of extraordinary price; the workmen were chiefly Germans." One of the earliest and most celebrated of these makers was Lucas Maler (or "Laux Maler" as he inscribed his name on his instruments). He lived at Bologna about 1415.

Other celebrated lute-makers were:—Ludwig Porgt, in Regensburg, 1525. Hans Gerle, in Nürnberg, 1520. Hans Neufiedler, in Nürnberg, 1550. Sebastian Raufgler, about 1590. Bueckenberg or Buchenberg, in Rome, about 1610. Hans Fichthold, a German, whose place of abode is not known, about 1610; his lutes, the backs of which are made with narrow strips of wood, in the Italian manner, were formerly much prized by connoisseurs. Paul Belami, in Paris, about 1612, probably an Italian. His lutes were highly valued. Joachim Tielke, in Hamburg, about 1600. Antonio Costaro in Rome, about 1615. Christofilo Rochi in Padua, about 1620. Sebastian Rochi in Venice, about 1620. Clays von Pommersbach, Cologne, probably during the sixteenth century. Magnus Tieffenbrucker, Vendelino Tieffenbrucker, and Leonhard Tieffenbrucker, in Venice, during the sixteenth century; their lutes were rather flat and long in body. Vendelino Venere, in Venice, sixteenth century. Michael Hartung, in Padua, about 1620; he was a pupil of Leonhard Tieffenbrucker. Raphael Mest, about 1630; a distinguished pupil of Michael Hartung, in Padua. Johann Christian Hoffmann, in Leipzig, about 1720; his lutes were exported to Holland and England. Martin Schott, in Prague, seventeenth century. Sebastian Rauch, in Prague, seventeenth century. Matthæus Hummel, in Nürnberg, seventeenth century. Schelle in Nürnberg, about 1700. His lutes were much valued, not only in Germany, but also in other European countries.

5989. '59.

**C**HITARRONE. A theorbo. Wood, inlaid with ebony, ivory, and coloured woods. Two sets of wooden tuning-

pegs, the lower containing twelve, and the higher eight. The instrument had wire strings. *Italian*. Inscribed inside "Andrea Taus in Siena, 1621." L. 5 ft. 4 in., W. 1 ft. 1½ in. (Bought, 2*l.*)

Bonanni, in his 'Cabinetto Armonico,' Rome, 1722, gives a drawing of a *chitarrone* which has a somewhat short neck, and only two strings; and he mentions it as an instrument of the Italian country-people. It appears therefore probable that the name *chitarrone* was applied to different instruments in different centuries; or that the construction of the Romish *tiorba* called *chitarrone* was in some measure suggested by that of the two-stringed one. Several *chitarroni* were generally played together in operatic music. At the musical performances in Florence, during the marriage festivities of the Grand Duke Don Ferdinando Medici with Madama Christiana di Loreno, in the year 1589, the orchestra consisted of the following instruments:—

Leuti grossi e piccoli.  
 Chitarroni.  
 Lire.  
 Archiviolata Lira.  
 Cetera.  
 Mandola.  
 Salterio.  
 Arpe.  
 Violino [also called Violina].  
 Sopranin di Viola.  
 Tenor di Viola.  
 Baffo di Viola.  
 Sotto-Baffo di Viola.  
 Viola bastarda.  
 Traverse.  
 Tromboni.  
 Cornetti.  
 Organo di pivette.

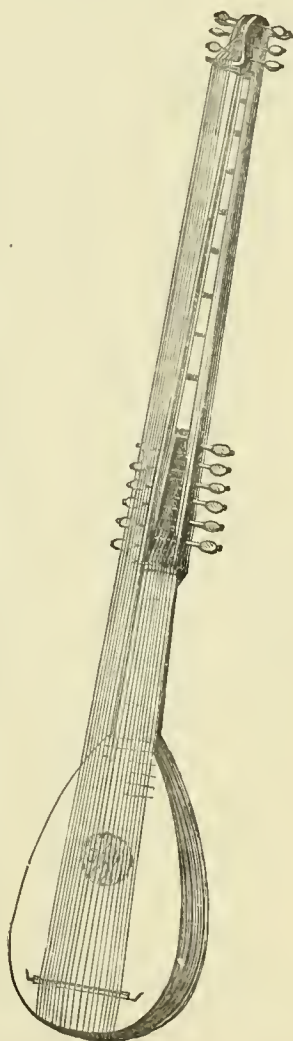


Fig. 128.—CHITARRONE.

Another instance of the employment of the *chitarrone* in the orchestra is recorded in a list of the musical instruments used in the performance of the opera of *Orfeo*, composed by Claudio Monteverde, in the year 1607. The orchestra consisted of: Duoi gravicembali; duoi contrabassi da viola; dieci viole da braccio; un arpa doppia; duoi violini piccoli alla Francese; duoi chitarroni; duoi organi di legno; tre bassi da gamba; quattro tromboni; un regale; duoi cornetti; un flautina alle vigesima seconda; un clarino con tre trombe fordone.

4274. '56.

**A**RCHLUTE. (Italian, *arciliuto*; French, *archiluth*; German, *erzlaute*.) Wood, inlaid with ivory and tortoise-shell, engraved. Two sets of tuning-pegs, the lower containing fourteen, and the higher ten. On the middle of the neck is an

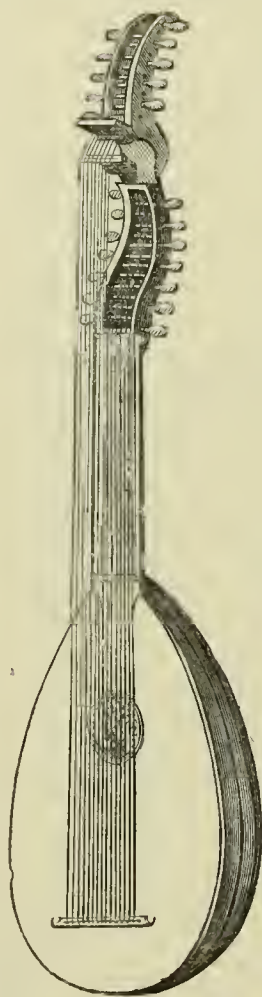


Fig. 129.—ARCHLUTE.



oval plate of mother-of-pearl, bearing the German inscription, *Gott der Herr ist Sonne und Schield* ("God, the Lord, is sun and shield"). *German (Hamburg)*. By Jacobus Heinrich Goldt. About 1700. L. 4 ft. 5 in., W. 1 ft. 2 in. (Bought, 8*l.*)

The *archlute* is a large theorbo with a peculiar arrangement of the strings. Several of them were doubled, the additional string being tuned an octave higher than the other. The process of tuning such instruments was evidently troublesome and tedious. Mattheson, the quaint contemporary of Handel, in his 'Das Neu-eröffnete Orchestre,' Hamburg, 1713, remarks:—"If a lutenist attains the age of eighty, you may be sure he has tuned sixty years; and the worst of it is that among a hundred players, especially of the amateurs, scarcely two are capable of tuning with accuracy. Now there is something amiss with the strings; now with the frets; and now again with the screws; so that I have been told that in Paris it costs as much money to keep a lute as to keep a horse." Also Mace, an enthusiastic admirer of the lute, testifies to the difficulty of keeping the instrument in proper condition; for his treatise on the lute and theorbo (contained in 'Musick's Monument,' London, 1676) is replete with rules for stringing, tuning, cleaning, repairing, &c. And, as regards preserving the instrument, he gives the advice—"You shall do well, ever when you lay it by in the day-time, to put it into a bed that is constantly used, between the rug and blanket."

1122. '69.

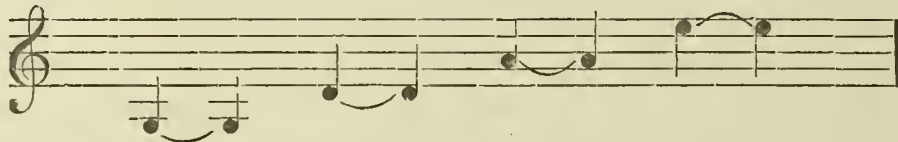
**Q**UINTERNA, or Chiterna. Ornamented with tortoise-shell, mythological figures in ivory, and precious stones. Ten strings of catgut, arranged in five pairs. On the side of the neck is the inscription—"Joachim Tielke in Hamburg, 1539." *German*. First half of 16th century. L. 2 ft. 1 in., W. 9½ in. (Bought, 30*l.*)

502. '68.

**M**ANDOLINE. (Italian, *mandolino*.) Wood, ornamented with tortoise-shell and mother-of-pearl. Metal frets;

eight tuning-pegs. *Italian (Neapolitan)*. Dated 1772. L. 1 ft.  $7\frac{1}{2}$  in., W.  $5\frac{3}{4}$  in. (Bought, 7*l.* 7*s.*)

There used to be in Italy various kinds of mandolines, of which the Milanese and the Neapolitan were the most common. The first-named had usually ten strings, constituting five pairs. The Neapolitan *mandolino* had eight strings, constituting four pairs, each pair being tuned in unison, as follows:—



The strings for the lowest tone, GG, were of catgut covered with silver wire; those for DD, were of brass; those for AA, of steel; and the highest, for EE, of thin catgut. The strings were usually twanged with a quill. Mozart, in his 'Don Giovanni,' has made use of the Neapolitan *mandolino* in the serenade; but, as the instrument has fallen into disuse, at least in most countries except Italy, the part written for it by Mozart is now generally played on the violin, *pizzicato*. The *mandolino* is now often strung with catgut strings.

It resembles a diminutive lute; but its finger-board has metal frets, and its strings are fastened to little ivory pins at the end of the body, instead of being looped through holes in the bridge. The convex back of the mandoline is deeper than that of the lute. It is one of the handsomest musical instruments.

Fouchetti published in Paris in the year 1770 a 'Méthode pour apprendre à jouer facilement de la mandoline à quatre ou à six cordes.' Other instruction books for the mandoline, now scarce, are: Leone, 'Méthode raisonnée pour passer du Violon à la Mandoline,' Paris, 1783. Denis, 'Méthode pour apprendre la Mandoline,' Paris, 1792. Bortolazzi, 'Anweisung die Mandoline von selbst zu erlernen,' Leipzig, 1805.

503. '68.

**P**ANDURINA. Wood, with back of ivory and ebony, the neck terminating in a carved head. Twelve tuning-pegs; metal frets. The two lowest strings are covered with wire; the two next are of catgut, and the others are of metal. Two strings are always tuned in unison. *Italian*. 17th century. L. 1 ft. 10 in., W. 6 in. (Bought, 4*l.* 15*s.*)



MACHÊTE.

*Madeira, Modern.*

183. '69.

QUINTERNA OR CHITERNA.

*German, XVI. Century.*

1122. '69.

PANDURINA.

*French, XVI. Century.*

219. '66.





504. '68.

**P**ANDURINA. Wood, the back and front inlaid with ivory and tortoise-shell. Seven tuning-pegs. A fine specimen, but without strings and frets. The frets were probably of catgut, as was often the case with instruments of the lute kind. *Italian.* 17th century. L. 1 ft.  $7\frac{1}{4}$  in., W.  $4\frac{3}{4}$  in. (Bought, 4*l.*)

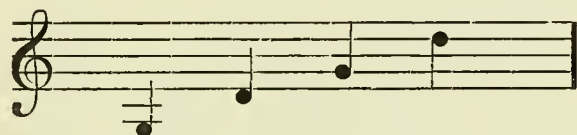
219. '66.

**P**ANDURINA. Beechwood, carved with strap and foliage work, having in the centre a group of Juno, Diana, and Venus; on the back of the neck is a Medusa's head in relief. Seven tuning-pegs. *French.* About 1570. L. 1 ft.  $4\frac{1}{2}$  in., W.  $4\frac{1}{2}$  in. (Bought, 139*l.* 10*s.*)

7754. '62.

**P**ANDURINA. Marquetry of wood and ivory in alternate bands. Twelve tuning-pegs. *Italian.* 16th century. L. 1 ft. 8 in., W.  $5\frac{1}{2}$  in. (Bought, 3*l.*)

The Italians had various instruments of this kind, in shape resembling the lute. Of this description are, for instance, the *mandora*, *mandorina*, and *mandolino*. The *mandora* had usually for each tone two strings, which were of catgut and wire; and there were eight pairs of them. The *mandorina* had four wire strings, usually tuned as follows:—

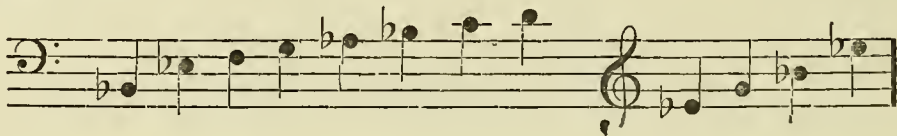


The *mandolino* has already been described. It differs from the *pandurina* chiefly in having a rounder and deeper body, and in having the tuning-pegs placed at the back of the head; while the *pandurina* has a sort of scroll, with the tuning-pegs situated sideways, similar to the old English cither.

1737. '69.

**H**ARP-LUTE. Wood, with ornamentation of painted flowers. *English.* About 1800. L. 2 ft. 8½ in., W. 1 ft. 1⅝ in. (Bought, 3*l.*)

The *harp-lute*, an invention of Edward Light, of London, about the year 1798, has twelve catgut strings, which are tuned in the following order:—



This was their actual sound; but it was the custom to write them in the key of C-major, thus:—



They, therefore, sounded a major-sixth lower than they were written. Some of the strings were provided with movable stops, by means of which they could be raised a semitone at the pleasure of the performer. The *harp-lute* was especially intended for accompanying vocal music; it has not, however, at any time been much in popular favour.

37, 37*a.* '73.

**H**ARP-LUTE. Wood, varnished black and gilt. Twelve strings, ten of which are of catgut, and two of silk covered with wire. Made by "Edward Light, Foley Place, London." In case. *English.* About 1800. H. 2 ft. 8¾ in., W. 13⅝ in. (Bought, 3*l.*)

In the year 1816, Edward Light took out a patent for a stringed instrument in shape and construction similar to the *harp-lute*, but having a finger-board for all the strings. This improved *harp-lute* he called the *British harp-lute*, or the *British lute*. In the specification defining the peculiarities of the *British lute*, the patentee asserts that "it is capable of performing any piece of music in different keys with more ease and correctness than is the common *harp-lute*." The most complete instrument of this kind, invented by Edward Light, was called



by him the *dital harp*. “Ditals, or thumb-keys,” he says, “are certain pieces of mechanism, each of which, when pressed upon, will produce the depression of a stop-ring, or eye, which draws the string of the harp-lute down upon a fret. . . . This mechanism has the property of holding the string fast in such position as long as may be required after the pressure of the finger or thumb is removed; or the pressure may be removed in an instant by a touch of the thumb on the same button or key.” The *harp-lute* has only a few of these ditals, while on the *dital harp* each string is provided with one, which raises it a semitone.

201. '72.

**D**DOUBLE HARP-GUITAR. In shape somewhat resembling a harp. Rosewood and other woods. Constructed for two sets of strings, together 12, of catgut and of silk covered with wire. Made by John Frederick Grofjean, in London. *English*. About 1840. H. 2 ft.  $11\frac{5}{8}$  in., W.  $16\frac{1}{4}$  in. (Bought, 2l. 12s. 6d.)

This instrument contains two finger-boards, each being strung with six strings, arranged like those of the guitar. It exhibits one of the many unsuccessful attempts to improve the guitar, or to render it more complete, which were made in the beginning of the present century when the guitar was still in vogue. A similar instrument with two finger-boards, and even with three, was made in the shape of the ancient lyre.

The *biffex*, a sort of double guitar, invented by Vanhecke, of Paris, and manufactured by the harp-maker Nadermann, Paris, about the year 1770, had two sets of strings, each set containing six strings; hence its name *biffex*. Only one set had a finger-board; the other set was placed near the finger-board, and therefore could only be used as open strings. The compass embraced three octaves and a half. Vanhecke published an instruction book for the *biffex*.

In the year 1837, J. F. Grofjean, a harp-maker in London, the manufacturer of the present *double harp-guitar*, took out a patent for a very singular invention for improving the quality of sound of the harp, and “applicable to all other musical stringed instruments.” As this invention has been applied to the present instrument, the following account of it may be interesting to musicians: “My improvement,” the inventor says, “consists in applying vitrified or crystallized matters to sounding-boards, and other surfaces of harps and other stringed instruments, whereby I am enabled to obtain greater fullness and richness

of tone to the same than when made according to the ordinary modes now in practice." Powdered glass ground very fine is sifted evenly over the sounding-board, which has previously been warmed and coated with cement, thus causing the sounding-board "to resemble a grotto with irregular crystallized surfaces, producing a very peculiar effect to the fulness and beauty of the sound of the instruments so improved."

In the *double harp-guitar* under notice, the preparation alluded to is attached to the under side of the sound-board, which may be seen through the sound-hole near the bottom of the frame, and which has the appearance of being lined with sand-paper. The sonorousness of the instrument sufficiently proves that the stuff,—whatever may be its efficacy,—has at any rate the negative merit of not impairing the vibration of the sound-board.

Several attempts have been made during the present century, in England as well as on the continent, to ensure a fine and full tone on stringed instruments by means of some extraneous application to the sound-board; but it would not be easy to point out a more extraordinary expedient than that exhibited by the present *double harp-guitar*.

507. '68.

**C**ASTANETS. Ebony. Modern. L.  $2\frac{3}{4}$  in. (Bought, 3s.)

Instruments of the castanet class,—or *crotala*, as the ancients called them,—are so numerous and various that even a notice of the most remarkable ones would require much space. Among European countries it is in Spain especially that *castanets* are highly popular; and from thence evidently other European nations have adopted them, at any rate in the shape in which they are at present generally used. The name also is Spanish, and originated, it is supposed, from the instrument being made of the wood of the chestnut tree, *castaña*. It may, however, be observed that the Arabs have the word *Kas*, signifying "a vase," which they apply to certain instruments of the *crotala* species.

508. '68.

**C**ASTANETS. Ebony. Modern. L.  $2\frac{3}{4}$  in. (Bought, 3s.)

509. '68.

**C**ASTANETS. Ivory. Modern. L.  $2\frac{3}{4}$  in. (Bought, 3s.)

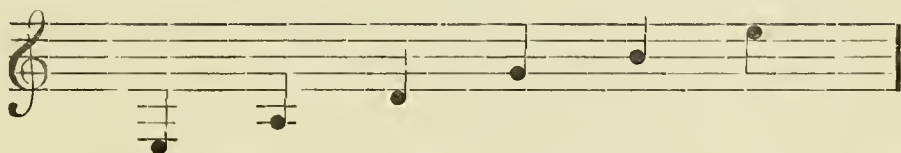
7356. '61.

**G**UITAR. (Spanish, *guitarra*; Italian, *chitarra*; French, *guitare*.) Wood, inlaid with marquetry of ivory, ebony, and mother-of-pearl. Metal frets. There are indications of its having been mounted with five sets of strings; four sets contained three strings each, and one set contained four strings, which were tuned in unison. *Italian*. About 1550. L. 2 ft. 11 in., W. 10½ in. (Bought, 6*l.*)

The *guitar* is evidently an importation from the East, but it has undergone various modifications since its adoption by European nations. It was an instrument of the Moors in Spain, and became known in France about the 11th century. The French called it formerly *guiterne*, and the English *gittern*, *ghittern*, and *gythorn*. At an early period it probably had the oval shape of the *kuitra*, still in use by the Arab musicians in Tunis and Algiers. In Spain it had formerly also the name of *vihuela*. An instruction book for this instrument, published at Salamanca in the year 1552, bears the title, 'Pisador (D.), Libro de cifra para taner vihuela;' and in England, at the time of Henry VIII., we find it occasionally called "the Spanish viol."

Instruction books for the old Spanish guitar have been written by:— Ludovico Milan, Valencia, 1534; Sixtus Kargel, Mayence, 1569; Joannes Carolus, Lerida, 1626; Pietro Milioni, Rome, 1638; Lucas Ruiz de Ribayaz, Madrid, 1672, &c. The number of guitar schools published during the last century is enormous. Germany alone contributed above fifty.

The guitar was a fashionable instrument in England, played by ladies, in the time of Charles II. On the Continent it generally had ten catgut strings, of which two were always tuned in unison. At the present day it has six strings, the lowest two of which are of silk covered with silver wire, and the others are of catgut. They are tuned as follows:—



The sound is, however, an octave lower than the notation; hence the guitar accompaniment is more effective with a soprano voice than with a tenor voice, and the least with a bass voice, on account of its coincidence with the compass of the male voices.

An old Portuguese guitar, dating from about the year 1600, which is still in a well-preserved condition, has twelve strings, which are arranged



so that the higher six are in sets of two, and the lower six in sets of three. As the strings of each set are tuned in unison, five tones are produced by the open strings. This guitar has three sound-holes, the head is turned backwards somewhat like the head of the lute, and the frets are of catgut, as they used likewise to be on the lute.

389. '71.

**G**UITAR. Rosewood back, inlaid with lighter woods in radiating and zig-zag lines, and diaper pattern, with inscription D RAFAEL VALLEJO ME HIZO EN BAZA, 1789; the founding board of pine, with the Royal Arms of Spain, and floral ornament inlaid in rosewood, and with inscription SOY DEL REY DON CARLOS IIII Q<sup>e</sup> D<sup>s</sup> G<sup>e</sup> M<sup>s</sup> A<sup>s</sup> (*i.e.*, Que Dios guarde muchos años). Made for Charles IV. of Spain. *Spanish*. 18th century. L. 3 ft. 2 in., W. 11 $\frac{3}{8}$  in. (Bought, 5*l.*)

This guitar has the peculiar contrivance of twenty wire strings being placed on the left side, in addition to the catgut strings, of which there are twelve. The strings are arranged in pairs, tuned in unison; those of catgut, therefore, produce six tones, and those of wire, ten.

390. '71.

**G**UITAR. Rosewood, inlaid with ivory, the founding board of pine inlaid with ivory and rosewood. *French*. Middle of 18th century. L. 2 ft. 11 $\frac{1}{2}$  in., W. 9 $\frac{1}{2}$  in. (Bought, 4*l.*)

676, 676a. '72.

**G**UITAR. Decorated with mythological figures and other ornament in tortoise-shell, mother-of-pearl, and ivory. In leather case, studded with brass nails. *French* (?). 17th century. L. 3 ft. 4 $\frac{3}{8}$  in., W. 11 $\frac{7}{8}$  in. (Bought, 53*l.*)

183. '69.

**M**ACHÊTE. A small species of guitar, with four gut strings. Wood, made in the shape of a fish. *Madeira*.

Modern. L. 1 ft.  $10\frac{1}{2}$  in., greatest W.  $6\frac{3}{4}$  in. (Given by Mr. T. Muir.)

The *Machête* is also popular in Portugal, where it generally has the shape of a diminutive guitar.

*Machête* is likewise the name of a kind of dagger which the Portuguese peasants formerly used to wear at the girdle.

“Five instruments in the shape of fish,” are mentioned among the musical instruments of Thomas Britton, the famous small-coal man, in the catalogue of his effects, which were sold by public auction after his death in 1714. The five instruments were probably *machêtes*, unless they were *pochettes*, like one in the shape of a fish which is in the Liceo Comunale di Musica at Bologna.

396. '71.

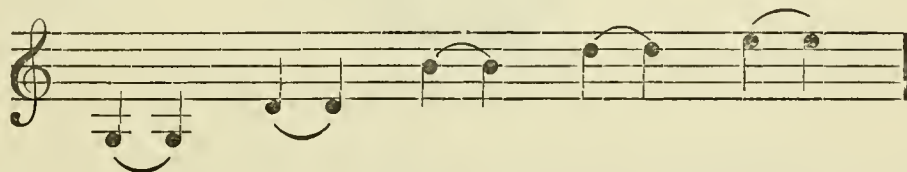
**M**ACHÊTE. Wood, in form of a fish. Five strings. *Madeira*. Early 19th century. L.  $25\frac{1}{2}$  in., W.  $7\frac{1}{2}$  in. (Bought, 2*l.*)

The surface is incised to represent the scales of a fish.

35. '67.

**Z**ITHER. Wood, inlaid. Ten ivory tuning-pegs; wire strings in pairs, tuned in unison; ornamented sound-hole in the middle. The back is flat, the neck has metal frets. *German*. 16th century. L. 2 ft.  $1\frac{3}{8}$  in., W.  $8\frac{5}{8}$  in. (Bought, 3*l.*) (See Fig. 130.)

The old German *zither* (*zitter*, *cither*), of which the present instrument is a specimen, contained four, five, six, or even more, pairs of wire strings, each pair being tuned in unison. The zithers with five and six pairs of strings were the most common. The former was tuned as follows:—



It was, however, very usual to have for the lowest tones single strings covered with thin wire.

The strings were twanged with a quill, or with a piece of whalebone. The *cithern*, or *cittern*, which during the 16th and 17th cen-

turies was a popular instrument in England, where it was often played in the barbers' shops, had four pairs of wire strings.

Its top generally terminated in a grotesquely-carved human head. The cithers made in England during the eighteenth century have generally at the top some inlaid ornamentation in ivory, mother-of-pearl, or fancy wood.

Although not well suited for the performance of harmonious combinations, since its wire strings are twanged with a quill, and therefore only such chords can be properly produced as are on strings following each other in uninterrupted succession, the cither, nevertheless, possesses considerable charms. Its sound, which is crisp and clear when the strings are twanged near the sound-hole, assumes a particularly soft and sweet quality when they are twanged close to the bridge. Thus pleasant

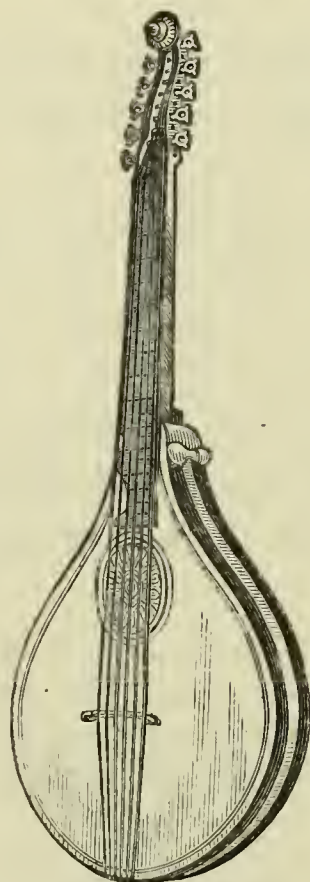


Fig. 130.—ZITHER.

effects are obtainable. True, modifications in quality of sound, by vibrating the strings more or less near to the end, are obtainable on any stringed instrument. They are also particularly effective on the lute; and, likewise, on the violin and other instruments played with a bow; but the cither pre-eminently invites to their employment.



This species of *zither* is still to be found in some parts of Germany, particularly in mountainous districts; but the horizontal *zither*, in which the finger-board is at the side of the sound-board, is now the most in vogue.

There are several conjectures as to the derivation of the German name *zither* or *zitter*. Some suppose it to be from “*zittern*,” on account of the peculiarly trembling sound of the instrument. During the first centuries of the Christian era the word *cythera* (*cithara*) implied almost any stringed instrument, especially if the strings were twanged with a plectrum, or with the fingers. It is also noteworthy, though perhaps only as a singular coincidence, that the Persians and Hindus have a three-stringed species of *zither*, which they call *fitar*, from the Persian word *fi*, “three,” and *tar*, “a string.” The Hindu *fitar* is, however, now usually mounted with five strings.

The characteristics of the English cither about the year 1600 may be ascertained from ‘*New Citharen Lessons, with perfect Tunings of the same, from four course of strings to four-teene course, euen to trie the sharpest teeth of Enuie, with lessons of all sortes, and methodicall Instructions for all Professors and Practitioners of the Citharen.* By Thomas Robinson, Student in all the liberall Sciences,’ London, 1609. The title page is adorned with an engraving representing a Bijuga Cither, mounted with seven pairs of strings over the finger-board, and seven single strings at the side of the neck, as on the theorbo. The instruction is conveyed in the form of dialogue between “Scholler” and “Master.” There is also an illustration of the common cither, with only four pairs of strings, or eight strings producing four unisons. Another curious book on the English cither, published by John Playford, is entitled, ‘*Musick’s Delight; containing new and pleasant Lessons on the Cithern,*’ London, 1666.

392. '71.

CETERA. Maple-wood, stained, the body carved with overlapping rosettes and other ornament; the sound-board of stained deal with perforated tracery, inscribed at back “*Augustinus Citarædus Urbinas, MDLXXXII.*” *Italian.* Late 16th century. L. 3 ft. 1 $\frac{3}{4}$  in., W. 12 in. (Bought, 8*l.*)

This interesting old cither had originally thirteen tuning-pegs, of which, however, two only still remain.

37. '70.

**K**EYED-CITHER. Wood, mounted with gilt metal and tortoise-shell. With Preston's tuning machine. *English.* 18th century. L. 2 ft.  $3\frac{1}{2}$  in., W.  $12\frac{1}{4}$  in. In wooden case, covered with stamped leather. (Given by Mrs. Bayley.)

Six keys, like those of the pianoforte, are placed in a little box, which is screwed on over the strings, so that the hammers strike the strings from above.

In England, Christian Claus took out a patent, in the year 1783, for the application of such a contrivance, which, as he declares it to be his own invention, probably differed somewhat from the present one.

642. '69.

**Z**ITHER (also called Schlagzither). In case. The instrument is of rosewood, inlaid with brass, mother-of-pearl, and ivory. The case contains three brass boxes for strings, a brush, two pairs of nippers, key, tuning-key, and cleaner. *Bavarian.* Modern. L. of instrument, 1 ft. 8 in., W. 1 ft. 1 in., H. 2 in. (Bought, Paris Exhibition, 1867, 6l. 8s.)

This horizontal species of *zither*, which bears but little resemblance to its namesake just described, has recently come into fashion, especially in the south of Germany; but it is not exactly a modern invention, for, in a less perfect state of construction it has long been a favourite instrument of the country people in Austria, Styria, Bohemia, Bavaria, and the Tyrol. It is now most usually made with 30 strings, of which four are on the finger-board, and are used for playing the melody; 26 strings serve for playing the accompaniment. The strings are of steel wire, brass wire, brass wire covered with silver, catgut, silk covered with silver wire, and silk covered with copper wire. The four strings for the finger-board are tuned thus:—



The performer places the instrument before him on a table; and he has attached to the thumb of his right hand a plectrum made of silver

wire, or of German silver, with which he strikes the melody strings; while the other fingers of his right hand strike the accompaniment strings. There are zithers with more and with fewer strings than the specimen thus described.

Three kinds of the horizontal *zither* are at the present day constructed in Germany, the *schlagzither*, the *liederzither*, and the *streichzither*. The last-named is played with a bow; the others are intended for playing tunes, and for accompanying the voice.

641. '69.

**S**TREICHZITHER and Bow, in Case. A small instrument, three-stringed, and played with a bow. The body is of rosewood, inlaid with ivory; the strings are of metal. It has three small feet with points of metal, and is placed on a table when it is played. *Bavarian (Munich)*. Modern. By Max Amberger. L. 1 ft.  $7\frac{1}{2}$  in., W.  $10\frac{1}{8}$  in. (Bought, Paris Exhibition, 1867, 3*l.* 12*s.*)

643. '69.

**V**IOLIN. *German*. Modern. L. 2 ft. (Bought, Paris Exhibition, 1867, 16*s.*)

Of the stringed instruments used in our orchestra, the *violin* is the one which has been longest preserved entirely unaltered. Its name (Italian, *violino*), a diminutive of *viola*, suggests that our *tenor* (*viola di braccio*) is the older instrument of the two. The *viol*, in use about three centuries ago, was however somewhat different in shape. As the oldest-known instruments played with a bow, which in European countries preceded the violin, may be mentioned:—The *rebec*, which, it appears, was first popular in Spain; the *crwth* of the Welsh; the *fidla* of the Norwegian, which, in shape somewhat resembled the *crwth*, and which, with some slight modifications, is still occasionally to be found in Iceland, where it is called *langspiel*; and the *fithle* of the Anglo-Saxons, derived originally from Germany. A representation of the Anglo-Saxon *fithle*, contained in a manuscript of the eleventh century, preserved in the British Museum, exhibits a four-stringed fiddle of a pear shape; or, to speak more exactly, resembling the half of a pear divided longitudinally. A still earlier representation of a fiddle,



almost identical with the foregoing, but having only one string, is given in Martinus Gerbert's 'De Cantu et Musica Sacra.' The manuscript from which this illustration has been derived, is supposed to date from the eighth or ninth century. In Germany, the oval, or rather pear-like form of the Anglo-Saxon *fithle* was still preserved, although somewhat modified, as late as the sixteenth century, in the *Geige*, of which some engravings are given in Martin Agricola's 'Musica instrumentalis,' Wittenberg, 1545.

Such were the instruments from which our violin has gradually been developed, until it attained, in the seventeenth century, that degree of perfection which has never since been surpassed. The violin makers whose instruments are still most highly valued, are,—Antonio Amati, whose most flourishing period dates between the years 1592 and 1619; Nicolo Amati, the nephew of the preceding, 1662–1692; Giuseppe Guarneri, 1690–1707; Antonio Stradivari, 1700–1725; and Jakob Stainer, 1650–1670. All these celebrated makers, except Jakob Stainer, were Italians, living at Cremona. Jakob Stainer (or Jacobus Steiner), was a native of Absom, a village near Innsbruck in the Tyrol. No other works of art have probably experienced so great an increase in price as the violins of these celebrated makers. Stainer used himself to carry his violins to the monasteries situated in the neighbourhood of Absom, where he lived. He sold them at 12*s.* apiece. It was not until after his death that his workmanship was duly appreciated. A violin by Joseph Guarnerius, fetched in London, 700 guineas; perhaps the largest sum which has ever been given for a violin.

34. '69.

**V**IOLIN and Bow. Carved with scrollwork, and the royal shield and supporters. Said to have belonged to King James I. *English.* Early 17th century. L. 1 ft. 11¼ in., W. 8 in., L. of bow 2 ft. 4½ in. (Bought, 15*l.*)

499. '68.

**V**IOLIN. *German.* Modern. (Bought, Paris Exhibition, 1867, 4*s.*)

541. '72.

**V**IOLIN Bow. Steel. Manufactured and given by Mons. J. B. Vuillaume. *French*. 1871. L. 2 ft. 5 in.

There are several celebrated violin bow makers, but the bows most coveted are those by François Tourte, Lupot, Edward and John Dodd, and Vuillaume. François Tourte, in Paris, during the second half of the eighteenth century, and in the beginning of the present century, charged about 12*l.* each for some of his bows. Edward Dodd, who died in London in the year 1810,—it is said, at the age of 105,—was the father of John Dodd, whose bows are more highly esteemed than those of his father.

10. '71.

**M**INIATURE Violin. Wood, with carved head; the lower part of the back inlaid with coloured woods, representing mediæval buildings. *German* (?). 17th century. L. 12 $\frac{3}{8}$  in., W. 3 $\frac{1}{2}$  in. (Bought, 2*l.* 5*s.*)

The body of this small violin is of about the size of a *pochette*; but the instrument differs from the *pochette* inasmuch as the neck is of the same proportion to the body as that of a violin; while the neck of the *pochette* is considerably longer in proportion to its body.

519-519*b.* '72.

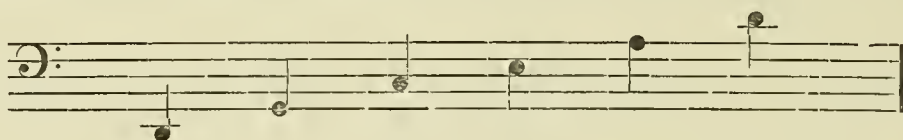
**S**ORDINO (French *pochette*) with Bow. The belly wood, the rest ivory, with carved female head. The bow also ivory. By "Dimanche Drouyn à Paris." In stamped and gilt leather case. *French*. 17th or early 18th century. L. 15 in., L. of bow, 15 in. (Bought, 1*l.* 10*s.*)

The instrument is boat-shaped. The name *sordino* is also occasionally applied to the Kit, made in the shape of a violin. The dancing-masters carried it in their pocket, hence its French name, *pochette*, and its German name, *tajchengeige*.

7360. '61.

**V**IOLA-DA-GAMBA. Wood, the head carved with foliated scrollwork, and terminating in a female bust. The finger-board inlaid with marquetry of ivory, &c. Six tuning-pegs. *Italian.* About 1600. L. 4 ft., W. 1 ft. 2 in. (Bought, 4*l.* 11*s.*)

The *viola da gamba* (French, *basse de viole*; German, *knigeige*), derives its name from its being held between the knees of the performer. It was the predecessor of the violoncello, and was made with frets. It usually had six strings which gave the following tones:—



Towards the end of the seventeenth century a seventh string was added, said to have been first used by the French virtuoso, Marais, who also had the three lowest strings covered with wire. His innovations were, however, not generally adopted.

The *viola da gamba* was a favourite instrument in England at the time of Queen Elizabeth, and even ladies played it occasionally. In England it was called *base viol*, and also *viol-de-gambo*. Sir Toby Belch, in Shakespeare's 'Twelfth Night,' says of Sir Andrew Aguecheek:—

“He plays o’ the viol-de-gamboys, and speaks three or four languages word for word without book, and hath all the good gifts of nature.”

Among the English public performers on the *viola da gamba* are recorded a Mrs. Sarah Ottey, in the year 1723, and a Miss Ford in 1760. Carl Friedrich Abel, a German, who lived in London during the latter half of the eighteenth century, was the last performer of celebrity on this instrument. Johann Sebastian Bach has employed it in his admirable 'Passionsmusik des Matthæus'; and there are some fine 'Suites,' still occasionally to be met with, composed for it by M. de Caix d'Herveloix, published in the year 1710. The tone of the *viola da gamba* is rather nasal, but sweet and expressive; indeed, it is to be regretted that this charming instrument has fallen into disuse. There is, however, a *gamba* stop in the organ, which resembles the famous *vox humana* stop, and which has recently been much favoured by organ builders.



The *violoncello* came into competition with the *viola da gamba* at the beginning of the eighteenth century, and has now entirely superseded its predecessor.

1298, 1298a. '71.

**V**IOLA-DA-GAMBA, with Bow. Wood, inlaid with ivory and with figures of Apollo, Venus, Mercury, and Diana, in mother-o'-pearl, the back of the neck having inserted in it a piece of ivory finely perforated; six strings and four tuning-pegs (two missing). Inscribed inside "Martin Voigt in Hamburgo me fecit, 1726." Said to have belonged to Haydn. *German.* L. 4 ft. 1 in., W.  $14\frac{3}{4}$  in., L. of bow, 2 ft.  $7\frac{3}{4}$  in. (Bought, 60*l.*)

398, 398a. '71.

**V**IOLA - DA - GAMBA. Altered into a violoncello. Sycamore (?) wood, with carved medallion of the Imperial arms; the finger-board, which terminates in a carved female head, is of ebony inlaid with ivory and pearl. Wooden case, covered with stamped leather. *German.* 17th century. L. 4 ft. 1 in., W.  $15\frac{1}{2}$  in. (Bought, 16*l.*)

Although the back and sides of the *viola-da-gamba* were occasionally made of some other wood, a species of maple, called *air-wood* by the English makers of the seventeenth century, was considered the most suitable for ensuring a fine quality of sound. Moreover, the body was not always made flaring towards the finger-board, but sometimes rounded like that of the violin. An illustration of a small *viola-da-gamba* of this shape is given in C. Simpson's 'The Division Violist,' London, 1659. The *viola-di-spala*, used about the year 1700, was nothing more than a *viola-da-gamba* of this description, which gradually merged into a small violoncello by the substitution of four strings for six, and the omission of the frets. The *viola-di-spala* was carried by the performer before him partly resting on his shoulder; hence its name. On the continent the violoncello also was not unfrequently carried by the performer in processions.

115, 115a, b, c. '65.

**V**IOLA di Bardone. Also called *viola di bordone*, and *baryton*. The finger-board is carved in open fret-work terminating in three lions' heads; above the bridge are two figures of negroes, carved and gilt. At one side of the finger-board is the inscription—"Joachim Tielke in Hamburg fecit, Anno, 1686." *German (Hamburg)*. By J. Tielke. Signed and dated 1686. L. 4 ft. 6 in., W. 1 ft. 4½ in. Also two bows, and a wrest, or tuning key of metal. (Bought, 40*l.*)

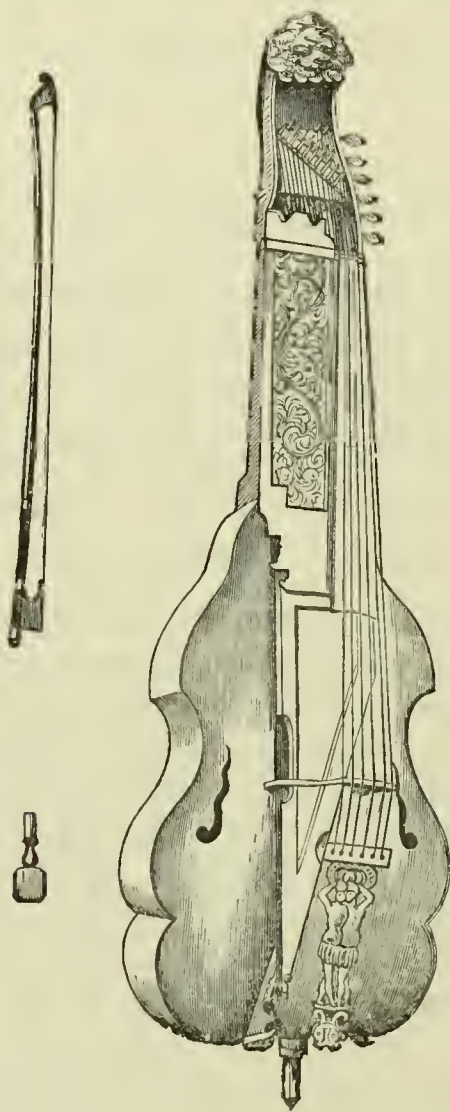
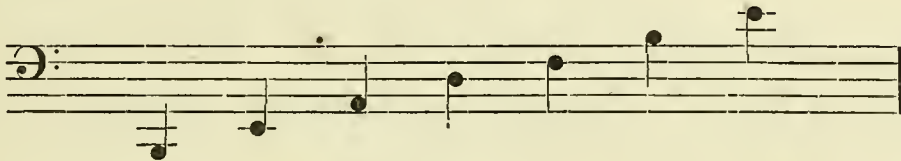


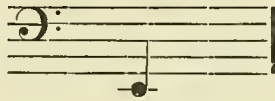
Fig. 131.—VIOLA DI BARDONE.

This instrument has six strings of catgut, which are tuned by means of wooden pegs, and are played with a bow; and beneath these it has twenty-two metal strings, which serve as sympathetic strings, like those described, page 204. The sympathetic strings are wound round iron tuning-pegs placed near the top of the neck; and they run down, partly under the finger-board and partly at its side, extending to the bridge, where they are fastened to little pins placed in an oblique line beneath the bridge. The body of the instrument has at each side two indentations, and is flat at the back. The two sound-holes are remarkable for their old-fashioned shape.

The *viola di bardone* was often mounted with seven catgut strings, instead of six; and they were tuned as follows:—



The number of metal strings likewise varied. Some old writers mention from sixteen to twenty, and others as many as forty-four. These strings were arranged in a diatonic succession, the lowest of them emitting the tone—



They served, however, not only as sympathetic strings, but were occasionally twanged with the thumb of the left hand, to produce effects resembling those of the lute. The most accomplished performers on the *viola di bardone* were Anton Lidl of Vienna (to whom is sometimes erroneously ascribed the invention of this instrument) and Karl Franz, a musician of the band of Prince Esterhazy, about the middle of the last century. Lidl played on the *viola di bardone* in concerts in England during the year 1776. Joachim Tielke of Hamburg, the manufacturer of the specimen in the Museum, of which an illustration is here given, was an instrument maker whose lutes were much esteemed on account of their fine tone, and their elegant ornamentation. He made them of ebony inlaid with ivory, mother-of-pearl, silver, and gold. A small *viola di bardone* by Tielke, dated 1687, which some years ago was exhibited at the Society of Antiquaries in London, had six catgut strings, and only eleven wire strings.

Joseph Haydn wrote sixty-three compositions for the *viola di bardone* by order of Prince Esterhazy, who was himself a performer on this instrument, and who admired it greatly. Its tone is soft and very ex-



pressive, but rather tremulous; owing to this quality, probably, it was also called *viola di fagotto*. It never became very popular, since its rather complicated construction offered too many difficulties in its treatment. In Germany it was generally called *baryton*.

I 444, I 444a. '70.

**V**IOLA di Bardone, or Baryton, with Bow. The neck of carved and pierced box-wood, terminating in a figure of Apollo playing the lyre; the finger-board of ivory, engraved, and inlaid with ebony and tortoise-shell, with figures of Jupiter and Juno, and a female playing on the lute. Inscribed "Jaques Sainpræ, A Berlin." Said to have belonged to Quanz, music master of Frederick the Great. *German*. 17th century. L. 4 ft. 6 in., W. 16½ in., L. of bow 2 ft. 2½ in. (Bought, 75*l.*)

The name *baryton* has been also applied to a small violoncello, and to some other instruments; and likewise to that register of the human voice which lies between the bass and tenor. The term *bardone* is a corruption of the Italian *bordone*. Indeed, some old writers call the instrument *viola di bordone*, and its French name is *viole de bourdon*, evidently on account of its wire strings producing the sound of a drone (*bourdon*). However, the learned F. W. Marpurg ('*Historisch-Kritische Beyträge Zur Aufnahme der Musik*,' Berlin, 1756, vol. ii.) records that it was originally called *viole de pardon*, and that it was invented in England by a prisoner condemned to be hanged, who in consideration of his invention was pardoned. Extravagant stories have occasionally been set afloat to explain the names of certain musical instruments the real meaning of which is uncertain.

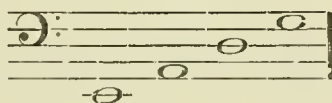
John Playford, in his '*Musick's Recreation on the Viol Lyra-way*,' London, 1661, describes a *lyra-viol*, the invention of which he assigns to Daniel Farunt, as a *viola-da-gamba* "strung with Lute strings and Wire strings, the one above the other. The wire strings were conveyed through a hollow passage made in the neck of the viol by a bridge of about half-an-inch. These were so laid that they were equivalent to those above, and were tun'd unisons to those above; so that by the striking of those strings above with the bow, a sound was drawn from those of wire underneath, which made it very harmonious. Of this sort of Viols I have seen many; but Time and Difuse has set them aside."

From this statement it would appear that an instrument very similar to the *viola di bardone* was known in England about the middle of the seventeenth century.

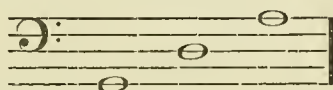
487. '72.

**D**DOUBLE-BASS, with Bow. Known as "The Giant." Three-stringed. Presented to the Duke of Leinster by the late Dragonetti. In wooden case. *Italian*. 17th century. L. 8 ft. 7 in., W. 3 ft. 6 in., L. of bow, 2 ft. 3 in. (Given by the Duke of Leinster.)

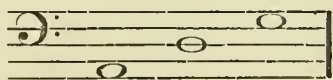
The double-bass (Italian, *contrabasso*, *violono*; French, *contre-basse*, *violone*; German, *grosse bass-geige*, *contrabass*) is either four-stringed or three-stringed. The four-stringed double-bass is especially used in Germany, and is tuned in fourths, thus:—



Three-stringed ones are, however, not uncommon in Germany, especially in the south, and are generally used in Italy, France, and England. The three-stringed double-bass is usually tuned in fifths, thus:—



In England, however, it is tuned in fourths, thus:—



It must be remembered that the sound is an octave lower than is indicated by the notation.

The predecessors of the double-bass were five-stringed and six-stringed. They resembled the *viola-da-gamba* in shape, and had frets on the finger-board.

The usual mechanism applied to the screws of the double-bass for facilitating its tuning is a comparatively modern contrivance. It was invented by C. L. Bachmann in Berlin, about the year 1778. Before that time the screws were turned by means of an iron key constructed for the purpose.

Dragonetti, the celebrated virtuoso on the double-bass, came to England in the year 1794. His favourite instrument, upon which he played in public concerts, was a 'Gaspar di Salo,' which he obtained from the Convent of St. Pietro at Vicenza, and which he never could be induced to part with, although 800*l.*, it is said, was offered him for it by one of his rich and enthusiastic pupils in England. After the death of Dragonetti this bass, and another valuable one by Stradiuarius, were sent back to Italy, he having bequeathed them in his will to the town of Venice. Dragonetti died in the year 1846 at his house in Leicester Square, at the age of 83. A year before his death he was still able to assist in the public performances at the Beethoven Festival in Bonn. His friend H. Philipps mentions in his 'Musical Recollections,' that the ends of Dragonetti's fingers had gradually become quite flat and deformed from playing.

Some double-basses of extraordinary large size are known to have been made in England. William Gardiner ('Music and Friends,' London, 1838, p. 70) mentions such an instrument, made by Martin in Leicester, which he saw in the year 1786, and which, if his statement may be relied upon, "was of such height that Mr. Martin was obliged to cut a hole in the ceiling to let the head through; so that it was tuned by going upstairs into the room above."

430. '72.

**N**AIL-VIOLIN. (German, *nagelgeige*, *nagelharmonika*, *eisenvioline*.) Mahogany; circular, with three sound-holes, and forty-nine pins. There are brass pegs for fifteen sympathetic strings, which are missing. *French*. 18th century. Diam.  $13\frac{5}{8}$  in. (Given by Monsieur Vuillaume, Paris.)

The oldest *nail-violins*, dating from about the year 1740, were made without sympathetic strings. These strings, intended to increase the sonorousness, are of thin brass wire. Senal in Vienna, about the year 1780, improved the instrument, and excelled as a virtuoso on it. Träger in Bernburg, in the year 1791, made it of an oblong-square shape, added a keyboard to it, and called it *nagelclavier*. In Träger's instrument the friction was, however, not produced by a bow, but by a linen band coated with resin.

The iron nails, or pins, of the *nail-violin*, which are sounded by the friction of a bow, gradually diminish in length and thickness from the



lowest to the highest tone. When struck in regular succession they produce the chromatic scale. The pins yielding the diatonic intervals are straight, and those for the chromatic intervals are slightly curved at the top.

4265. '57.

**VIRGINAL.** Ebony, enriched with appliqué open-work tracery, in silver; in the under side of the lid is a mirror. *German.* About 1600. L. 1 ft. 6½ in., W. 11 in. (Bought, 44*l.*)

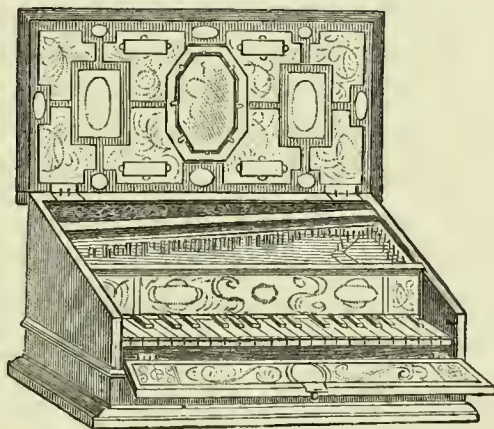


Fig. 132.—VIRGINAL.

The instrument has metal strings, one for each tone, which are twanged by means of small portions of quill, attached to slips of wood called “jacks,” and provided with thin metal springs. Its construction is therefore similar to that of the spinet and harpsichord. Its compass embraces three octaves and a whole tone, thus :—



But the pitch of the instrument was probably originally higher than indicated by the notation. The highest semitone, G-sharp, is omitted. Crowquills were most commonly used in the construction of such instruments; but other materials, as for instance leather, whalebone, and even elastic strips of metal, were occasionally adopted instead.

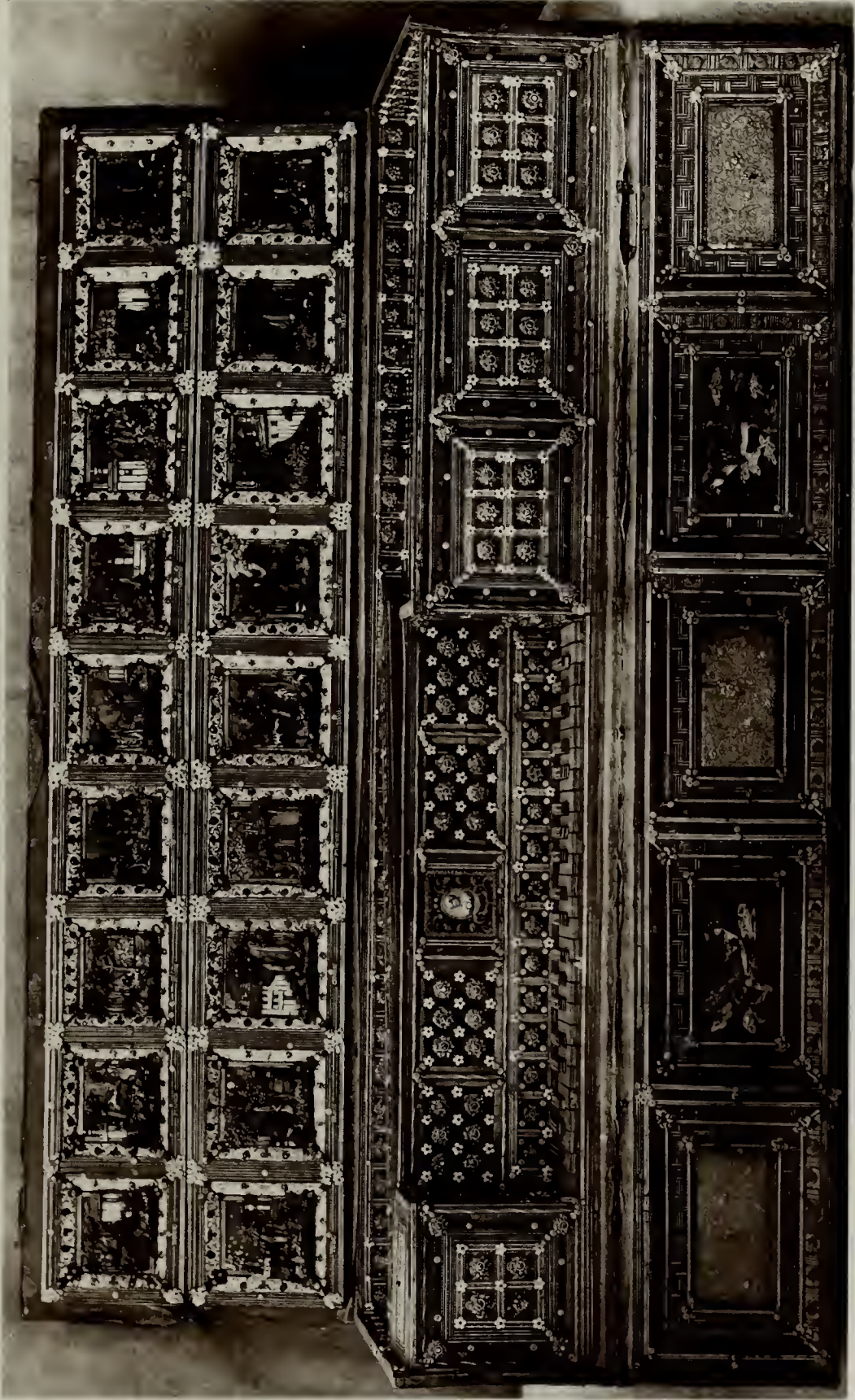
The *virginal* is said to have obtained its name from having been intended especially to be played by young ladies. The statement of some writers that it was called virginal in compliment to Queen Elizabeth, is refuted by the fact of its being mentioned among the musical instruments of King Henry VIII. in the beginning of the sixteenth century. Probably the name was originally given to it in honour of the Virgin Mary, since the *virginal* was used by the nuns for accompanying their hymns addressed to the Holy Virgin. It was made of various sizes, but generally small in comparison with our square pianoforte. The Italians, about three hundred years ago, constructed a small portable instrument of this kind, which they called *ottavino* (or *ottavina*) because its pitch was an octave higher than that of the clavicembalo, or harpsichord.

Queen Elizabeth was a performer on the *virginal* as well as on the lute. Sir James Melville, the Scotch ambassador, records in his memoirs an interview with Queen Elizabeth, in the year 1564, in which he heard her play upon the virginal:—"Then sche asked wither the Quen [Mary of Scotland] or sche played best. In that I gaif hir the prayse." During the Shakesperian age a virginal generally stood in the barbers' shops for the amusement of the customers. The instrument had evidently retained its popularity at the time of the Great Fire of London; for Pepys (Diary, September 2, 1666) records:—"River full of lighters and boats taking in goods, and good goods swimming in the water; and only I observed that hardly one lighter or boat in three that had the goods of a house in, but there was a pair of virginals in it."

402. '72.

**V**IRGINAL. Instamped and gilt leather case, decorated internally with panels containing representations of incidents in classical mythology, and other ornaments in coloured glass, and with plaques of silver foliage and enamel on copper; the key-board of forty-five keys, and other parts, enamelled in a similar manner. Made at Murano, near Venice. Said to have belonged to Elizabeth, Queen of Bohemia, daughter of James I. *Italian*. End of 16th century. L. 4 ft. 11½ in., H. 10 in., Depth, 16½ in. (Bought, 140l.)





SPINET (VIRGINAL). *Italian, XVI. Century.*





An Italian *spinetta* of an oblong-square shape. In England a spinet of this shape was commonly called a virginal, or rather "a payre of virginals," according to writers of the seventeenth century.

813. '73.

**V**IRGINAL. Outer covering of oak. The inside painted, representing Adam and Eve in Paradise; a sea fight; hunters of the 17th century. *English*. 17th century. Inscribed "John Loofemore fecit, 1655." H. 3 ft. 6 in., L. 5 ft. 8½ in., W. 20½ in. (Bought, 52*l.* 10*s.*)

The compass of this *virginal* embraces four octaves and a whole-tone, thus :—



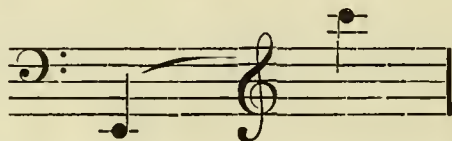
John Loofemore, Stephen Keen, and Adam Leverfidge were the most skilful English virginal makers of the seventeenth century. A virginal made by Adam Leverfidge in the year 1666, which is still extant, measures 5 feet 2 inches in length and 20 inches in width. The inside of the cover and the woodwork about the sound-board are ornamented with paintings.

The first book of music for the virginal published in England is entitled: 'Parthenia, or Maydenhead of the first Musicke that ever was printed for the Virginals; composed by three famous masters, William Byrde, Dr. John Bull, and Orlando Gibbons, Gentlemen of his Majesty's most Illustrious Chappell. Ingraven by William Hole.' It was published in London in the year 1611.

218. '70.

**O**TTAVINO. An Italian Spinet, somewhat resembling the Virginal. Compass, 3¼ octaves. Painted wooden case. The back of the key-board ornamented with figures in etched gold. The inside of the lid painted with a ship in full sail, and marine deities, dancing figures, and musical trophies; said to be by Federigo Zuccherò. *Italian*. Late 16th century. L. 2 ft. 3⅛ in., W. 17 in. (Bought, 20*l.*)

The shape of this little spinet differs from the oblong-square shape of the little virginal, inasmuch as the right side is longer than the left side. The lower keys are white and the upper ones are black. There is only one string for each tone, and the mechanism, or "action," is with quills like that of the harpsichord. The sound-board has a sound-hole in the middle. The compass embraces three octaves and a sixth, thus:—



The pitch was probably an octave or a fifth higher than indicated in the notation; but this is not exactly ascertainable since the strings are loofened or wanting.

809. '69.

**S**PINET. Wood and ivory, ornamented with jasper, agate, and other decorative stones, and set with lapis-lazuli, pearls, garnets, &c. *Italian.* Made by Annibale dei Roffi of Milan, 1577. L. in front 4 ft. 9½ in. (Bought, Paris Exhibition, 1867, 1,200*l.*)

*List of the Decorative Stones, &c. on this Instrument.*

857 turquoises, small.

361 pearls, small.

3 lapis lazuli 1½ × 1½ in. Round.

6 " " 1 × ¾ in. "

25 " " ⅝ × ⅜ in. Flat.

2 " " 2 × ⅝ in. "

8 " " 1½ × ⅜ in. "

20 " " 2⅜ × ⅕ in. "

8 " " ⅞ × ⅝ in. Round.

18 " " ½ × ⅜ in. "

10 " " ¼ in. diameter.

1 " " H. 1 in., diam. ½ in.

2 " " ½ in. × ½ in.

5 amethysts, 1 in. × ⅝ in.

23 " smaller.

10 topazes (quartz) 1 in. × ⅝ in.

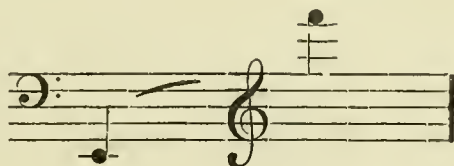
48 " " smaller.



6	carnelians,	$\frac{3}{4}$ in.	$\times$	$\frac{5}{8}$ in.
40	emeralds,	small.		
32	sapphires,	small.		
117	garnets,	small.		
242	rubies and garnets,	smaller.		
4	crystals (foiled)	1 in.	$\times$	$\frac{5}{8}$ in.
5	agates (pink)	1 in.	$\times$	$\frac{5}{8}$ in.
4	„ (celadon)	1 in.	$\times$	$\frac{5}{8}$ in.
19	agates and jaspers,	1 in.	$\times$	$\frac{5}{8}$ in.
2	jaspers (variegated)	$2\frac{1}{2}$ in.	$\times$	$\frac{1}{2}$ in.
18	„ „	$1\frac{1}{8}$ in.	$\times$	$\frac{1}{2}$ in.
4	„ „	$\frac{1}{2}$ in.	$\times$	$\frac{1}{4}$ in. (pedestals).
28	„ (red)	$2\frac{1}{2}$ in.	$\times$	$\frac{1}{4}$ in.

Total - 1,928

This spinet in shape resembles the dulcimer. (*See the frontispiece.*) It is open at the top, instead of being covered with a lid. It has a round and ornamented sound-hole in the middle of the sound-board. There is only one string for each tone. The compass embraces four octaves and a semitone, thus :—



Over the key-board is the inscription :—“ Anniballis de Roxis Mediolanenses MDLXXVII.” The following extract from ‘La Nobilità di Milano,’ 4to. Milano, 1595, lib. v., cap. viii., p. 18, refers to this instrument.

“ Degno di lode fù Annibal Rosso, per effer stato il primo inuentore di rimodernare i clauicordi in quella forma moderna, come hoggidì si veggono. Questo virtuoso fece fra gli altri lauori un clauicordo di rara bellezza e bontà con i tasti tutti di pietre preziose e di vaghiffimi ornamenti, che fù venduto per scudi cinquecento, e lo possiede il dotto e virtuosiss. illustre Sig. Carlo Trivultio. E. Ferrante, suo figliuolo, vè tuttavia imitando il padre e trouando nuoue inuentioni ne clauicordi, doue ne vien lodato.”

(*Translation.*)

“ Hannibal Rosso was worthy of praise, since he was the first to modernize clavichords into the shape in which we now see them. This

skilful maker constructed among other works a clavichord of uncommon beauty and excellence, with the keys all of precious stones, and with the most elegant ornaments. This instrument was sold for 500 crowns, and is now in the possession of the learned and refined nobleman Signor Carlo Trivulzio. Ferrante, his son, goes on in all respects in imitation of his father, and makes fresh improvements in clavichords, thereby gaining himself a name."

It will be observed that in this old record the instrument is called *clavicordo*. There evidently prevailed, some centuries ago, much vagueness in the designation of certain stringed instruments with a key-board. The term *clavichord* seems to have not unfrequently been applied to any stringed instrument with a key-board, no matter what its interior construction might be. Johann Walther, in his 'Musicalisches Lexicon,' Leipzig, 1732, describes the *virginal* (or "Virginal," as he calls it), in these words:—"Ein Clavier vors Frauenzimmer" (*a clavichord for ladies*). The following brief explanation of the difference between the spinet and the clavichord may therefore be of interest to some inquirers.

The *spinet* (Italian, *spinetta* or *spinetto*; French, *épinette*), is said to have derived its name from the little quill (*spina*) used in its mechanism, which is the same as that of the harpsichord and the virginal, described before.

The more commonly-known spinet resembles in shape the harpsichord and the grand-piano. It is, however, smaller than the harpsichord, and its key-board is placed in a somewhat oblique direction. The tone of the spinet was generally a *fifth* higher than that of the harpsichord.

The *clavichord* (Italian, *clavicordo*; German, *clavier*, or *klavier*), differs from the spinet inasmuch as it is of an oblong-square shape, and especially in its being constructed with so-called *tangents*, *i.e.*, metal pins which press under the strings when the keys are struck. The strings are of thin brass wire. The oldest specimens of the clavichord still extant are from three to four feet in length, and about two feet in width. The lower keys are black, and the upper ones are white. There is only a single string for each tone and its upper semitone; thus, there is but one string for *C* and *C-sharp*, and likewise for *D* and *D-sharp*, and so on. The semitone is produced by a second tangent, which touches the string at a place a little distant from that at which it is touched by the tangent producing the whole-tone. On being pressed under the string, the tangent divides it into two vibrating parts, one of which is considerably longer than the other and gives the sound. The other part is too short to be distinctly audible, and therefore does not very perceptibly interfere with the clearness of the sound. Moreover, its vibration is checked by a strip of cloth interlaced with the strings. It will easily be understood

that of the two tangents, the one which most shortens the sounding part of the string, must produce a tone of a higher pitch than the other.

Such was the construction of the *clavichord* until about the year 1700, when it was improved in so far as that each key was supplied with a separate string. The clavichord is pre-eminently a German instrument. Although now almost entirely supplanted by the pianoforte it is still occasionally to be met with in the house of the German village schoolmaster, and of the country parson. Though but weak in sound, it admits of much expression; and most of the German classical composers who lived before the invention of the pianoforte preferred the clavichord to the harpsichord. In England it has never become popular. Considering the simplicity of its construction, it might be surmised that the price of a clavichord was generally very moderate. In the latter half of the 18th century the prices charged for such instruments by some of the best manufacturers were as follows:—Carl Lemme, in Brunswick, made clavichords of various qualities, which fetched from three to twelve Louis d'ors a-piece; he also made, for exportation to Batavia, clavichords with a compressed sounding-board, invented by his father in the year 1771; Krämer, in Göttingen, charged from four to fourteen Louis d'ors, according to size and finish; and Wilhelmi, in Cassel, charged from twenty to fifty thalers,—from about 3*l.* to 7*l.* 10*s.*

156. '69.

**S**PINET. This instrument is in dimensions, mechanism, and compass, precisely like that by Annibale just described. It bears the inscription—*Opus Anibalis Mediolanensis, MDLV. Italian.* 16th century. L. 5 ft., W. 1 ft. 9 in. (Bought, 15*ol.*)

155. '69.

**S**PINET. In shape and construction similar to the preceding instrument. It bears the inscription—*Marci Jadrae MDLXVIII. Italian.* 16th century. L. 4 ft. 9 $\frac{3}{4}$  in., W. 1 ft. 7 in. (Bought, 15*ol.*)



**S**PINET. Compass, five octaves:—



Constructed with “jacks and quills.” Each tone has but one string, according to the usual stringing of the spinet. *English.* Latter half of the 17th century. Made by Thomas Hitchcock.<sup>1</sup> L., obliquely, 6 ft., W., in front, 4 ft. (Bought, 5*l.*) Deposited in the Educational Department. (See the engraving, Fig. 133.)

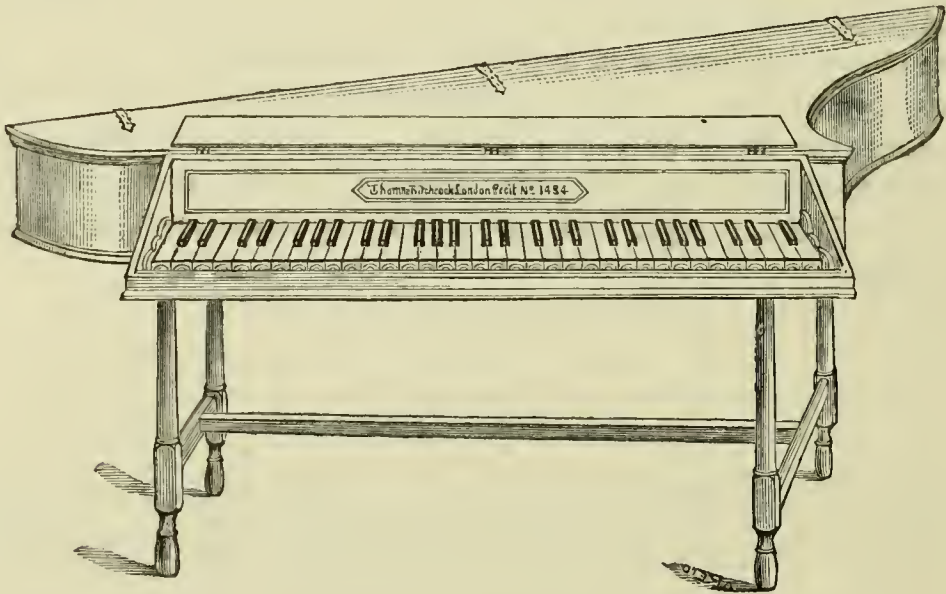


Fig. 133.—ENGLISH SPINET.

6007. '59.

**C**LAVICEMBALO. (English, *harpsichord*; German, *Flügel*; French, *Clavecin*.) In wooden case, the exterior painted with flowers, and the interior with the subject of Apollo and the Muses, and with rich arabesque ornamentation. *Italian.*

<sup>1</sup> The manufactory of Thomas Hitchcock must have been very productive, if we may judge from the number inscribed over the key-board of the instrument, which is “1484,” and must not be mistaken for the date of the manufacture of this spinet.

Signed and dated, "Joanes Antonius Baffo, Venetus, 1574."  
L. 7 ft. 4 in., W. 3 ft., depth 9½ in. (Bought, 6*l.* 7*s.*)

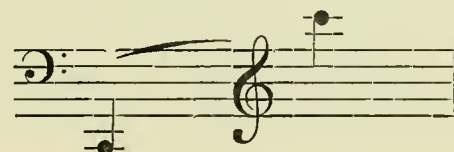
The compass of this instrument is nearly four octaves and a half, as follows:—



The *clavicembalo* (often designated merely *cembalo*) is called in German "Flügel," on account of its shape somewhat resembling the wing of a bird. The largest *clavicembali* formerly in use generally had a compass of five octaves, thus:—



Each tone had three strings, sometimes even four, which were in unison, with the exception of one which sounded an octave higher. The instrument was usually supplied with some stops by means of which the quality of sound could in some measure be modified. Furthermore, it was frequently made with two key-boards, one for the loud and another for the soft tones. The harpsichord made in England was precisely of the same construction. In fact, the best harpsichord makers in England were emigrants from the continent, and the founders of some of the great pianoforte manufactories still flourishing in London. Burkhardt Tschudi, for instance, a harpsichord maker from Switzerland, was the founder of Broadwood's celebrated manufactory, which dates from the year 1732. Kirkman, a German (who, before he established himself in England wrote his name Kirchmann) sold his harpsichords in London, according to the German Musical Almanack for the year 1782, at the price of from 60*l.* to 90*l.* apiece. In the beginning of the eighteenth century many of the harpsichords made in England had, according to Graffineau (*Musical Dictionary*, London 1740), a compass of only four octaves, thus:—



However, already as early as in the 16th and 17th centuries, harpsichords or *clavicembali*, of a superior quality, manufactured in Antwerp by Hans Ruckers and his sons Jean and Andreas, were imported into England. The instruments of these celebrated Antwerp manufacturers were tastefully embellished, and the best Dutch painters not unfrequently enriched them with devices. The consequence has been, that after the invention of the pianoforte, many of these old harpsichords were taken to pieces in order to preserve the valuable panels. The price of a fine harpsichord by Ruckers, about the year 1770, was 120*l*.

The old *clavicembalo* by Antonio Baffo, of Venice, here exhibited, has slips of prepared leather instead of the usual crowquills, which shows that the statement of some writers as to Pascal Taskin in Paris being the first to use leather is erroneous. Taskin, in constructing in the year 1768, the "Clavecin à peau de buffle," merely revived an old invention, which, however, he seems to have much improved. He made a *clavecin* with three key-boards, two of which were connected with actions constructed of crowquills, and the third with an action of leather. The modification in quality of sound thereby obtained was greatly admired.

The invention of the *clavicembalo* as well as of the *clavicordo*, is by some old writers ascribed to Guido Aretinus (or Guido d'Arezzo), the famous monk who is recorded to have invented, in the year 1025, the Solmifation, and also to have first conceived the idea of employing lines and dots in the notation of musical sounds. Unauthentic though the tradition may be which assigns to Guido the invention of the stringed instruments with a key-board, it appears very probable that some rude kind of clavichord was first constructed about his time, or soon after.

The pianoforte, which now has entirely superseded the harpsichord, was first constructed at the beginning of the 18th century, in Italy and Germany. About the year 1767 it was from Germany introduced into England; but the English musicians for a considerable period objected to it, and preferred to retain the harpsichord.

1121. '69.

**C**LAVECIN. *French.* Made by Pascal Taskin, at Paris, in the year 1786. The case highly ornamented with Japanese figures and gilding. The keys are smaller than the usual size; the lower ones are of ebony, and the upper ones of





CLAVICEMBALO. Italian, XVI. Century.



ivory. Compass, five octaves and a semi-tone. Each tone has two strings. H. 2 ft. 9½ in., W. 2 ft. 7 in., L. 6 ft. 1 in. (Bought, 80*l.*)

Constructed with crowquills instead of the prepared leather which Pascal Taskin is known to have used. But it may be seen at a glance that the mechanism has recently been restored; the crowquills may, therefore, have been substituted for the worn-out leather.

1079. '68.

**H**ANDEL'S Harpsichord. Case of deal, black japanned; with internal ornament of flowers painted, and inscriptions in gold. Made by Andreas Ruckers, of Antwerp, 1651. H. 3 ft., L. of top, 6 ft. 8 in., W. 3 ft. (Given by Messrs. Broadwood.)

The following documentary evidence of this instrument's authenticity as Handel's harpsichord has been transmitted by Messrs. Broadwood:—

“ 33, Great Pulteney Street, London,  
18th November 1868.

“ Handel's harpsichord was bought by us of Mr. Hooper, a piano-forte tuner at Winchester, in 1852. He had obtained it from Dr. Chard, the Cathedral organist of that city, who had taken pains to prove it to be the same instrument which Handel had left by will to his friend and amanuensis, Christopher Smith. In Handel's will, dated June 1750, was the bequest:—‘I give and bequeath to Christopher Smith my large harpsichord, my little house-organ, my music books, and 500*l.* sterling;’ and in a codicil, dated 6th of August 1756: ‘I give to Christopher Smith 1,500*l.* additional to the legacy already given to him in my will.’ Dr. Chard wrote to the Rev. George Coxe of Twyford (Rector of St. Michael's, Winchester) to obtain his testimony to the identity of this harpsichord with the ‘*Large Harpsichord*’ of the will. Mr. Coxe was nearly related to Smith, and had frequently heard him play upon it. On the 13th of May 1842, and in the presence of witnesses, Mr. Coxe confirmed this. Dr. Chard states in the document signed by Mr. Coxe, that this harpsichord was left with a large collection of Handel's MSS. by Christopher Smith to his step-daughter, the Dowager Lady Rivers, who parted with it to Mr. Wickham, a surgeon, who, in his turn, parted with it to the Rev.



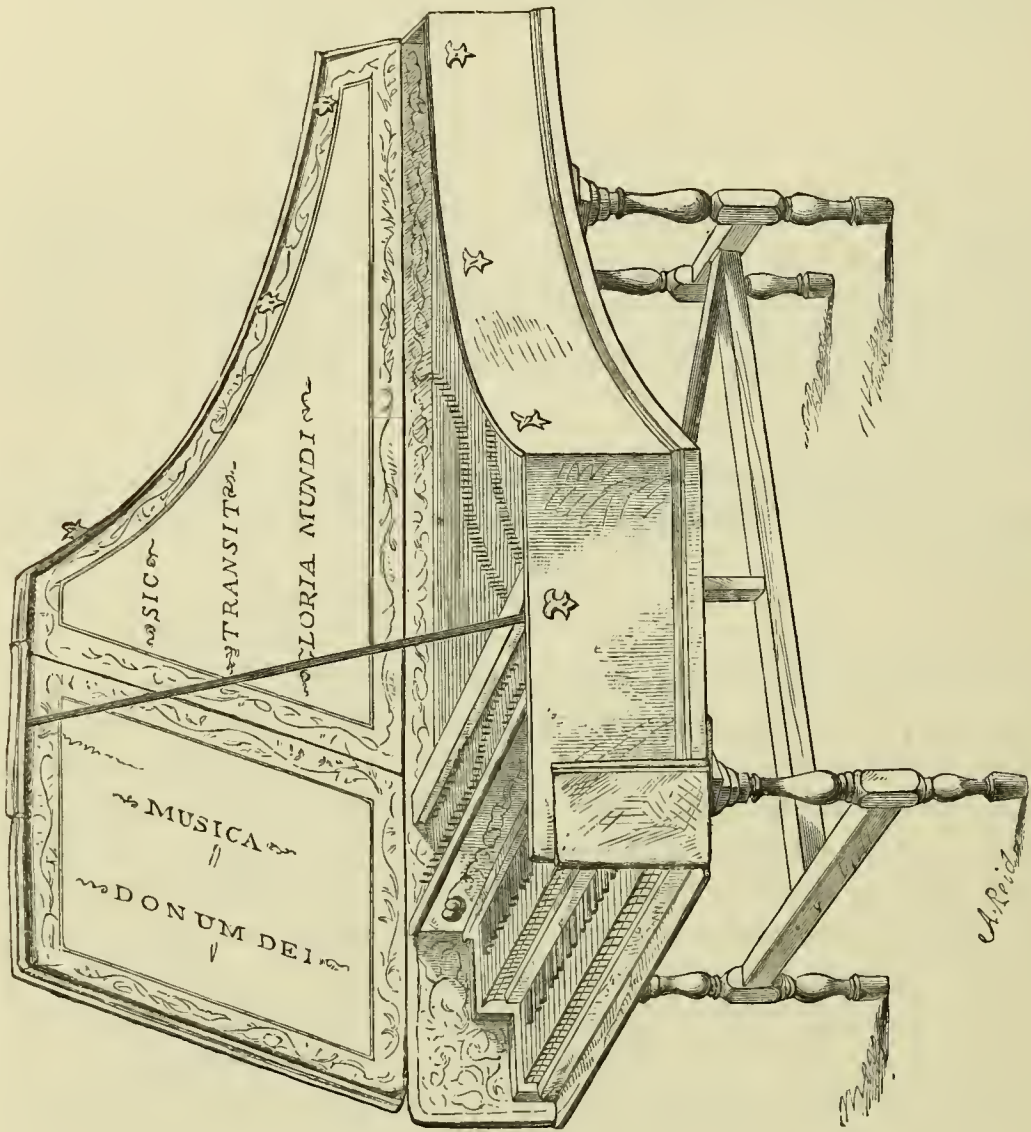


Fig. 134.—HANDEL'S HARPSICORD. (See page 279.)

Mr. Hawtrey, Prebendary of Winchester, after whose death it came into the possession of Dr. Chard.

This interesting relic of Handel is also worthy of notice from having been one of the best-constructed instruments of the celebrated harpsichord makers, the Ruckers family of Antwerp. It is not remarkable for any beauty of decoration beyond the conventional ornamentation of the period; but the structure shows great skill in the manufacture, and that the harpsichord had become nearly perfected in the middle of the seventeenth century.

The two key-boards were used for variety of tone. The lower key-board, the *jacks* of which acted upon two sets of strings in unison, and one set an octave higher, was the louder in tone; the upper key-board, acting on one set of strings only, was the softer. But the lower key-board could be made to act upon one set of strings only, by means of stops drawn out by the hand of the performer. In touching the keys, a distinctive quality of tone may still be recognized, particularly in the higher notes, a reedy but soft and delicate *timbre* testifying to the former beauty of the instrument. It may be assumed as certain that the keys are not of Handel's time. We do not know when the present key-boards were put, or by whom, but the style of the white and black keys is undoubtedly modern. Neither can it be doubted that there were originally keys in keeping with the fashion of the harpsichord, which we may suppose to have been worn out, to account for the substitution of those existing. The case of deal, black japanned, the brass hinges, the ornamentation, and the mottoes are original. Inside the top is inscribed,—

*Sic transit Gloria Mundi;*

on the flap or folding of the top,—

*Musica Donum Dei;*

and on the slip of wood above the upper keys,—

*Andreas Ruckers me fecit, Antwerpiae, 1651.*

There is a date on the founding-board '1651,' and in the ornamental found-hole are the initials 'A. R.' Among the flowers represented on the founding-board may be seen a concert of monkeys, one beating time, another playing the viol da gamba, etc. A third motto existed until about fifteen years ago—*Acta Virum Probant*. This was rubbed off by a workman engaged in mending the lock-board (upon which this motto was), which had been split.

As a musical instrument, this harpsichord has lived its life. It is not now capable of being tuned, and any attempt to improve the accord

of it might prove disastrous by the sounding-board giving way altogether. It is, therefore, of consequence to the preservation of the woodwork that tuning should not be attempted.

JOHN BROADWOOD AND SONS."

Letter to the Rev. G. COXE, Twyford, Rector of St. Michael's,  
Winchester.

"My dear Sir,

Will you oblige me by certifying (if I am correct) the following:—

The celebrated Mr. Smith (or Schmidt) was Handel's private friend, and amanuensis. This said Mr. Smith was presented by Handel with his favourite fine double-keyed harpsichord, made by the best maker of the day, Andreas Ruckers of Antwerpia, 1651. This said instrument you have heard repeatedly Mr. Smith play on. Mr. Smith was father-in-law to you as well as your sister, the late Dowager Lady Rivers; and at his death the said harpsichord, together with a large collection of Handel's oratorios, etc., etc., MSS., came into the hands of the Dowager Lady Rivers. This instrument was parted with to a Mr. Wickham, surgeon, who parted with it to the Rev. W. Hawtrey, Prebendary of Winchester Cathedral, upon the death of whom I purchased it at the sale of his effects; and in my possession it still remains. Is not this the identical instrument now spoken of? Your early answer to these queries, as the only living witness, will oblige.

Dear Sir,

Yours faithfully,

G. W. CHARD.

P.S.—Will you oblige me by certifying on this sheet of paper, and returning it?

*Answer.*

I certify that the above statement is correct, as far as my knowledge goes.

GEORGE COXE,

Twyford, May 13th, 1842.

Witness to the above signature—

Sufanna Gregg,  
James Harris."



1739. '69.

**H**ARPSICHORD. Black and gold Japan-work case. The sound-board ornamented with paintings of birds, fruit, and flowers. The interior edge of the case and the front ornamented with tracing in white, on a black ground. The inside of the cover ornamented with paintings of Bacchanals and grapes. Made by Ruckers, of Antwerp. Date 1639. L. 5 ft. 8 in., greatest breadth, 2 ft. 6½ in. (Given by Messrs. Joseph Kirkman and Son.)

This instrument was formerly the property of George III., and was removed from Buckingham Palace when Jacobus Kirkman sent a new harpsichord for Queen Charlotte. The action and keys were destroyed at a fire which occurred at Messrs. Kirkman's manufactory in the year 1853.

629. '68.

**S**ERINETTE. Bird organ. Beech wood veneered with satin wood and inlaid with marquetry of coloured woods representing musical instruments and foliage. Mounted in gilt metal. *French.* 17th century. H. 8⅓ in., L. 11⅓ in., W. 9 in. (Bought, 50*l.*)

The *serinette* was formerly used in France by ladies to teach airs to little singing birds, especially to a kind of finch or canary, called in French *serin*; hence the name of the instrument.

2. '67.

**O**RGAN Positive. Chamber organ. In wooden case, carved, painted, and gilt, in renaissance style. On the inside of the shutters are painted in tempera the Dismissal of Hagar, and the Sacrifice by Abraham; and above the pipes an open-work ornament, with a medallion portrait and shield of John George, Duke of Saxony. The pipes are made of paper;

three stops. *German.* 16th century. H. 3 ft. 9½ in., W. 2 ft. 3½ in. (Bought, 40*l.*)

Organ pipes are usually made of wood, or of a composition of tin and lead, which is called pipe-metal; but some centuries ago they were also made of copper, brass, silver, gold, alabaster, glass, clay, and occasionally of paper.

The celebrated organ builder, Eugenius Casparini, made, in the seventeenth century, at Vienna, an organ with six stops, all the pipes of which were of paper; and the Emperor Leopold I. gave him for this work of art 1,000 ducats and a golden snuff-box containing the emperor's portrait.

To enter at any length into the history of the organ would require much space, and is hardly compatible with the object of the present catalogue. A few cursory remarks must therefore suffice.

The *organ positive* is distinguished from the *organ portative* in so far that the former was a larger instrument, generally placed on a table and blown by an attendant, while the latter was carried about by the performer in religious processions and on such-like occasions.

In England some rude species of organ is said to have been used in public worship as early as about the middle of the seventh century. It was, however, on the continent, principally in Germany, that almost all the important improvements originated which gradually brought the organ to its present high degree of perfection. Many old organs of fine workmanship are still extant in the churches of Germany. During the 18th century especially several large organs of deserved celebrity were built in that country; suffice it to instance those of the brothers Andreas and Gottfried Silbermann. In England the important inventions of the continental builders were not readily adopted. Recently, however, several huge organs of very fine workmanship have been constructed in England, chiefly for use in concert rooms, or public halls.

The *regal*, often mentioned in English literature of the time of Shakespeare, and earlier, was a small *organ portative*. There was till about the end of the last century a "Tuner of the Regals," in the Chapel Royal St. James's, with a salary of 5*l.* The name *regal* is supposed to have been derived from *rigabello*, a musical instrument of which scarcely more is known than that it was played in the churches of Italy before the introduction of the organ.

The expression "a payre of regalls," used by writers some centuries ago, evidently implies only a single instrument. Thus also the virginal is not unfrequently mentioned as "a payre of virginals." Moreover,



ORGAN POSITIVE. German, XVI. Century.





it appears that the regal was occasionally made with two sets of pipes, so as to constitute a double organ of its kind.

In the following lines from Sir W. Leighton's 'Teares or Lamentations of a Sorrowful Soule,' London, 1613, this little organ is mentioned in combination with other curious instruments now antiquated, most of which will be found in the present collection :—

“ Praise him upon the claricoales,  
The lute and simfonie :  
With the dulfemers and the regalls,  
Sweete fittrons melody.”

MEXICAN ANTIQUITIES.

1384-84b. '64.



WHISTLES. Three; in the form of heads of animals. Terra-cotta. *Ancient Mexican.* (Given by Captain Vanfittart, R.N.)

1385. '64.

WHISTLE. Model of a bird. Terra-cotta. L. 3 in. *Ancient Mexican.* (Given by Captain Vanfittart, R.N.)

The illustration, Fig. 55, exhibits three such whistles which were constructed by the Aztecs. Some of these contrivances may be regarded rather as pipes than as mere whistles, since they yield about four tones, so that some simple tune can be played on them. The enclosure of a loose ball, which is occasionally found in the whistles of the Aztecs, was evidently effected in the same way as that of the balls in the earthenware rattle, *ajacaxtli*, noticed above, page 79.

These relics are particularly interesting when compared with the little pipe of baked clay which was found in the ruins of Babylon, *Birs-i-Nimroud*, and which is now in the Museum of the Royal Asiatic Society, London. This pipe appears also to be intended to represent the head of an animal, and bears altogether much resemblance with the

ancient American whistle. It measures about three inches in length, and has two finger-holes situate side by side, and consequently equidistant from the end at which it is blown. The opposite end has no opening; the instrument in this respect resembles a whistle. By some little contrivance about five tones are obtainable, but the natural tones of the instrument are only the tonic, the third, and the fifth. If both finger-holes are closed it produces the tonic, if only one of them is closed it produces the third, and if both are open it produces the fifth. Moreover, it is remarkable that the third obtained by closing the left finger-hole is about a quarter-tone lower than the third obtained by closing the right finger-hole. This interesting Babylonian relic is in as well-preserved condition as any of the Aztec whistles, notwithstanding its high antiquity. A notation of the tones producible on the latter is given in the preceding Essay on the History of Musical Instruments, page 67.

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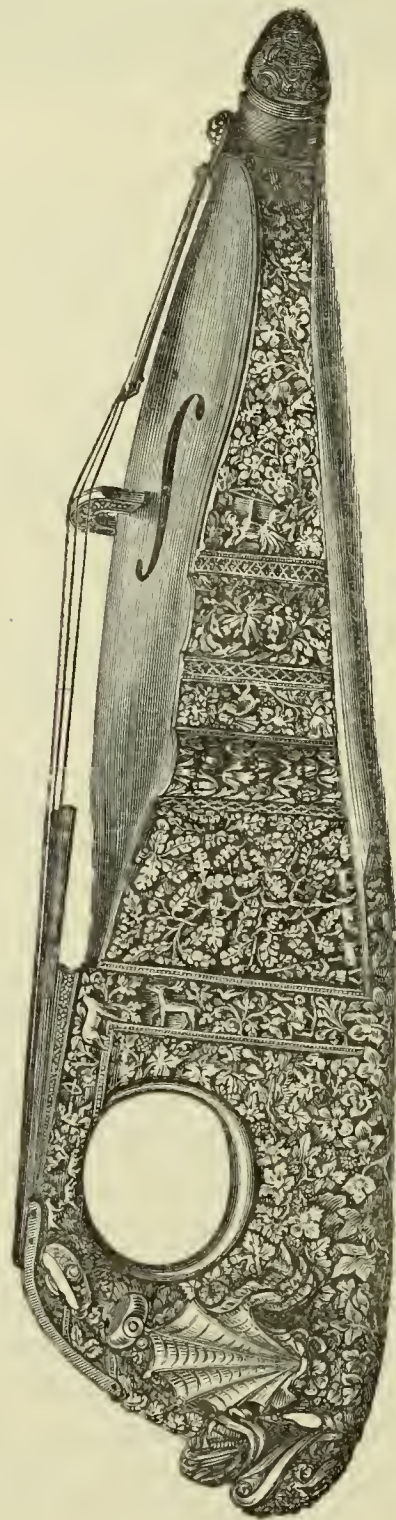
## APPENDIX No. 1.

### INSTRUMENTS LENT FOR EXHIBITION.



**V**IOLIN. Boxwood, carved with woodland scenes. *English.* Dated, 1578. (Lent by the Earl of Warwick.)

This violin is said to have been given by Queen Elizabeth to the Earl of Leicester, and the arms of both these personages are engraved on silver on the finger-board. The instrument is mentioned by Hawkins and also by Burney; the former gives a drawing of it in his 'History of Music,' London, 1776, vol. iv. p. 342. He says, "At a sale by auction of the late Duke of Dorset's effects a violin was bought, appearing to have been made in the year 1578, which, though of a very singular form, and encumbered with a profusion of carving, was essentially the very same instrument with the four-stringed violin. The dimensions of the instrument are as follows:—From the extremity of the tail-pin to the dragon's head, two feet; length of the belly thirteen inches. Over the pins is a silver gilt plate that turns upon a hinge, and opens from the nut downwards; thereon are engraved the arms of England, and under them, encircled by a garter, with the usual motto, the bear and ragged staff, and an earl's coronet at the top. The bear and ragged staff was the cognizance of the Nevils, Earls of Warwick. Robert Dudley, Earl of Leicester, who derived his pedigree from them, took it for his crest (see Fuller's 'Worthies of Warwickshire,' p. 118). This agrees with a tradition concerning it, that the instrument was originally Queen Elizabeth's, and that she gave it to her favourite, the Earl of Leicester, which is not improbable, seeing



A. REID. DEL.

Fig. 135.—VIOLIN. English. Dated 1578. Lent by the Earl of Warwick. (See page 287.)

that her arms are also upon it. In the tail-pin is inserted a gilt silver stud, to which the tail-piece is looped, with a lion's face curiously wrought on the top; this is secured by a nut which screws to it on the under side of the instrument, whereon are engraven these letters

15  
and figures I P supposed to signify the year when it was made and the  
78

initials of the maker's name. The subject of the carving on the deepest part, and on the side above presented to view, is a man with an axe standing on the ground, and working upon some fallen branches of an oak tree. On the opposite part are represented hogs under an oak tree, and a man beating down acorns; the rest of the carving is foliage; the whole is in alto relievo. Under the carving is a foil of tinsel or silver gilt. The back of the instrument is not curved, but forms a very obtuse angle, and from the bottom of the back, extending to the back of the dragon's head, the carving, which is very bold, consists of oak foliage. Notwithstanding the exquisite workmanship of it the instrument produces but a close and sluggish tone, which, considering the profusion of ornament, and the quantity of wood with which it is encumbered, is not to be wondered at."

Burney, in his 'History of Music,' London, 1789, vol. iii. p. 16, says: "The instrument is at present the property of Mr. Bremner, in the Strand. It is very curiously carved, but the several parts are so thick, and loaded with ornaments, that it has not more tone than a mute, or violin with a *fordine*; and the neck, which is too thick for the grasp of the hand, has a hole cut in it for the thumb of the player, by which the hand is so confined as to be rendered incapable of shifting, so that nothing can be performed upon this instrument but what lies within the reach of the hand in its first position."

It has been suggested that this violin is the work of J. Pemberton, a maker of some celebrity in London about the year 1580; but there seems to be no other indication in support of this opinion than the initials above mentioned. On the other hand, we have the opinion of an authority that the wood carving is some centuries older than the upper portion of the instrument, and that it dates from about 1330. This violin may therefore be a reconstruction of an older instrument of the violin kind.

The Museum contains also an electrotype reproduction of this interesting relic, which has been made by Messrs. Franchi and Son.



**H**ARPSICHORD. Painted and gilt case with carved legs. The painted decoration consists of medallions containing subjects referring to music and pastoral life, connected by designs of flowers and birds. *French or Italian.* 17th century. (Lent by a gentleman.)

**S**PINET. *English.* Made by Joseph Mahoon. About the middle of the 17th century. Compass, five octaves, thus:—



(Lent by C. H. Thorpe, Esq.) Deposited in the Educational Department.

**M**INIATURE Virginal. Combined with a little cabinet. Ebony, inlaid with ivory. Compass, three octaves and two semitones. (Lent by Signor Castellani.)

**H**ARP. Constructed so as to admit of being tuned by either hand; made by the inventor Dizi, in the early part of the 19th century. (Lent by C. H. Thorpe, Esq.)

**H**ARP, carved, and painted with landscape subjects, trophies of musical instruments, &c., and flowers. *French.* About 1750. (Lent by Mrs. Jackson.)

**T**RIPLE Harp. Welsh. 18th century. (Lent by Lady Llanover.)

This harp (Welsh, *telyn*) is the work of John Richards, of Rhiwabon, a Welsh harp-maker of reputation during the first half of the eighteenth century. He made the harp of John Parry of Rhiwabon, the famous blind Welsh harper, and the original of Gray's 'Bard,' and he was so celebrated for the combs of his harps that "Old Parry's Curve" became proverbial in Wales from the harps built by John Richards for Blind Parry.

The instrument is triple-stringed, or in other words, it has three rows of strings. The two outer rows are tuned in unison, according to the diatonic scale, and the inner row contains the chromatic tones. The chief advantage of having the two outer rows in unison, or two sounds for each interval of the diatonic scale, appears to be that it enables the performer to sustain a tone at pleasure for any length of time by striking the two strings which are in unison alternately in regular and rapid succession. Of course the tone cannot in this way be so equally sustained as on a violin or flute; it rather partakes of the nature of the prolonged sound which pianists produce by means of the repetition action on the pianoforte, a kind of *tremolo* which, as is well known, Thalberg has often made use of in "fingering" a melody on the pianoforte. No doubt the old Welsh harpers must have required much practice to enable them to produce a continuous sound which did not tremble excessively, and the evident difficulty in acquiring the knack may be the reason why we find the effect so little employed in the Welsh music for the harp by Edward Jones and others of the last century, when the triple stringed *telyn* was still in popular favour.

The introduction of special strings on the harp for the chromatic intervals, so as to enable the performer to produce them without the expedient of shortening the strings with his fingers, or by means of a mechanism, appears to have suggested itself some centuries ago to several nations. A harp with the compass of above six octaves, like our present one, if it were constructed with the chromatic strings between the diatonic ones, would be too broad, and the strings would necessarily be so close together as to render it extremely difficult to play. Attempts to construct a harp with chromatic strings have, however, been occasionally made. Of this description was, for instance, the *chromatische harfe*, constructed in the year 1804 by Pfranger, a physician in Schleusingen, Germany. Its compass embraced five octaves. The strings for the

chromatic intervals were of a different colour from those constituting the diatonic scale, and were placed lower in the frame than the latter. Perhaps this contrivance suggested itself to its manufacturer from his having become acquainted with the Welsh triple harp. We find, however, as early as in the year 1605, Luca Antonio Eustachio, a chamberlain of Pope Paul V., recorded as the inventor of a harp with three strings for each tone, which perhaps was likewise to some extent an imitation of the old Welsh triple harp.

**S**ORDINO or Pochette. Wood, with carved female head at the top. Four strings. In a leathern case. *French*. Dated 1647. (Lent by J. Hare, Esq.)

**H**UNTING Horn. 16th century. (Lent by Signor Castellani.)

**Z**INKEN. Wood, coated with leather. *German*. 17th century. (Lent by R. Burchett, Esq.)

The Italians call it *cornetto curvo*. A short description of this instrument has already been given, page 230. In Shakespeare's 'Merchant of Venice' (Act II., Scene 5) Shylock speaks of "the vile squeaking of the wry-neck'd fife," probably referring to the *cornetto curvo* (German, *krummer zinken*). The *cornetto diritto* (German, *gerader zinken*) differed from it only inasmuch as it was straight like a flute. Each had usually seven finger-holes. The mouth-piece, which resembled that of the trumpet, was often made in one piece with the instrument. The smallest species of *zinken* called *cornettino*, the tone of which was rather shrill, was often played on the continent in the streets during public festivities and in processions.

**H**AND Bell. Silver gilt; the upper part covered with openwork ornament jewelled and enamelled, and fur-



mounted by a statuette of a man blowing a horn. *German*. 17th century. (Lent by J. Furley, Esq.)

**P**IB-GORN, or Hornpipe. An instrument of the oboe family. In the inside is a reed. *Welsh*. Early 18th century. (Lent by C. Wynne Finch, Esq.)



Fig. 136.—PIB-GORN. *Welsh*.

The *pibgorn* was formerly popular with the rustics in Wales. It is made of horn, measures about 18 inches in length, and has seven finger-holes. The reed concealed within it resembles the reed of the hautboy. The *pibgorn* is still occasionally met with in the Isle of Anglesea, where it is played by the shepherds. A species of country dance, termed *hornpipe*, originally derived its name from being commonly danced to this instrument, *pibgorn* signifying *hornpipe*. Edward Jones (*Musical and Poetical Relicks of the Welsh Bards*, London, 1794) mentions another Welsh instrument of this kind, “a sort of pipe used in some parts of South Wales, called *cornicyll* (from *cornig*, a diminutive of *corn*) which has a concealed reed on the same principle as the *pibgorn*, and the mouth-piece screws off in order to introduce the reed; in other respects this instrument is made like a common clarinet.” From this account it would appear that the *cornicyll* was provided with a single reed, and not with a double reed like that of the *pibgorn*.

The *stockhorn*, which the pastoral people in Scotland formerly constructed, is similar to the Welsh *pibgorn*. In the *Complaynt of Scotland*, which was written in the year 1548, we find the *cornepipe* enumerated among the pastoral instruments played by eight shepherds: “The fyrst had ane drone bagpipe, the nyxt hed ane pipe maid of ane bleddir and of ane reid, the third playit on ane trump, the feyerd on ane corne pipe, the fyfth playit on ane pipe maid of ane gait horne, the sext playit on ane recordar, the sevint plait on ane fiddil, and the last plait on ane quhiffel.”

**C**RWTH. An instrument of the fiddle kind formerly popular in Wales, but now almost fallen into oblivion. It was played with a bow, and twanged with the thumb of the left hand. (Lent by C. Wynne Finch, Esq.)

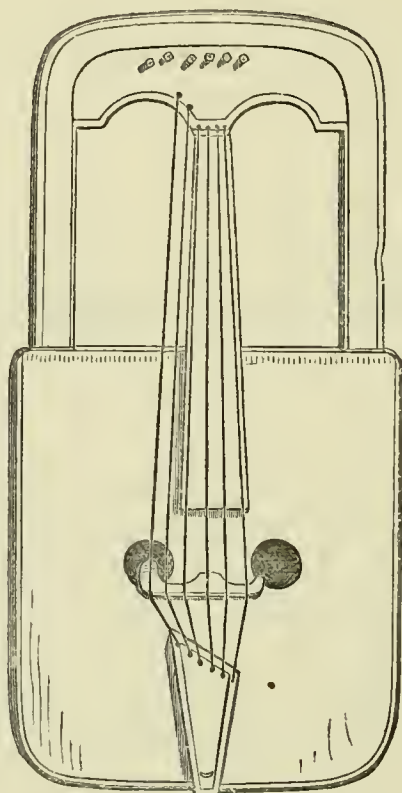


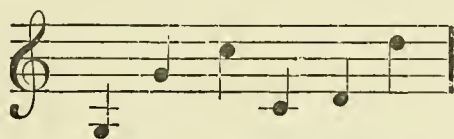
Fig. 137.—CRWTH. Welsh.

This *crwth* was found in the Isle of Anglesea. It had the following inscription on a label in the inside :—

Maid in the paris of  
anirhengel by Richard  
Evans Instruments maker  
In the year 1742.

It is, however, probably older than the date here given, and may have been only repaired by Richard Evans. Another repair it has undergone in the year 1871, but especial care has been taken to restore it exactly to its original condition. This interesting instrument is cut out of one block of wood, excepting the belly, which is glued on. Its dimensions are : length, 22 inches ; width,  $9\frac{1}{2}$  inches ; depth, 2 inches.

The finger-board is  $10\frac{1}{4}$  inches long. The belly has two circular sound-holes, as shown in the annexed engraving. The top of the bridge is very flat, and as the sides of the *crwth* are without incurvations, it is almost impossible to apply the bow to any string singly. From its peculiar arrangement in the tuning of the strings it would appear that two strings, constituting an octave, were usually intended to be sounded together. The *crwth* is strung with six catgut strings, two of which run at the side of the finger-board, and are therefore unalterable during the performance. The strings are tuned as follows :—



The two strings for *g* and its octave, which run at the side of the finger-board, are generally vibrated with the thumb of the left hand, and serve chiefly as an accompaniment to the tones produced on the other strings by the bow. The *crwth* has no sound-post; however, one foot of the bridge in some measure serves for it by extending through one of the sound-holes so as to rest on the back inside the instrument. The other foot of the bridge, which is proportionally shorter, is placed on the sound-board near the other sound-hole. The position of the bridge is not at right angles with the sides of the body, but somewhat oblique.

Some account of the antiquity of the *crwth* is given in the preceding Essay on the History of Musical Instruments, page 99. Towards the end of the 18th century there was still a skilful player on the *crwth* to be met with in Wales. At the present day it seems to have been entirely superseded by the violin.

**S**OUNG. A harp. Carved and gilded body and neck.  
Silken strings. On carved wood stand. *Burmese*. (Lent by Henry Willett, Esq.)

**N**INE wind instruments, of zinc and copper, chiefly in twisted serpent form. *Burmese*. From the Edinburgh



Museum of Science and Art. Lent. These instruments were brought to Edinburgh by an officer of the British Expedition in the Burmese war of 1824-25.

**T**RUMPET. Formed of a human thigh-bone. Used by the Bhooteas as a sacred instrument. (Lent by William Tayler, Esq.)

Similar trumpets are used in the temples by the Lamas or Buddhist priests of Sikkim, Himalaya. The thigh-bone is perforated through both condyles. It is very often the bone of a lama, and is considered valuable in proportion to its length. "It is reported at Darjeeling," Dr. Hooker ('Himalayan Journal,' London 1854) remarks, "that one of the first Europeans buried at this station, being a tall man, was disinterred by the resurrectionist Bhooteas for the sake of his trumpet bones." It is sometimes tastefully mounted with silver. Also the Lamas of the Kalmucks in the South of Russia use, according to Julius Klapproth, such a trumpet in their religious ceremonies. They call it *gangurih*, and it is generally made of the long arm-bone of a slain enemy.

**T**OOTOOREE. A trumpet. In common use in the temples in Bombay. *Indian*. Modern. (Lent by Sir Bartle Frere, K.C.B.)

The Brahmins, or priests attached to Hindu temples, use several kinds of trumpets in religious processions, and in festivals in honour of their divinities. The largest kind is called *kurna*.

**T**ZETZE. An instrument of the Somali, East Africa, South of Abyssinia. Modern. It is formed of a carved stick, a gourd, and a single string. (Lent by Sir Bartle Frere, K.C.B.)

The *tzetze* is also to be found in Zanzibar and other districts of eastern Africa. Its string is generally made of the fibre of the Raphia Palm, and by means of the frets six different tones are producible on most of these instruments.

**ZANZE.** A wooden box, carved, and having at the top a number of iron tongues which the performer vibrates with his thumbs. *Western Africa.* (Lent by Henry Willett, Esq.)

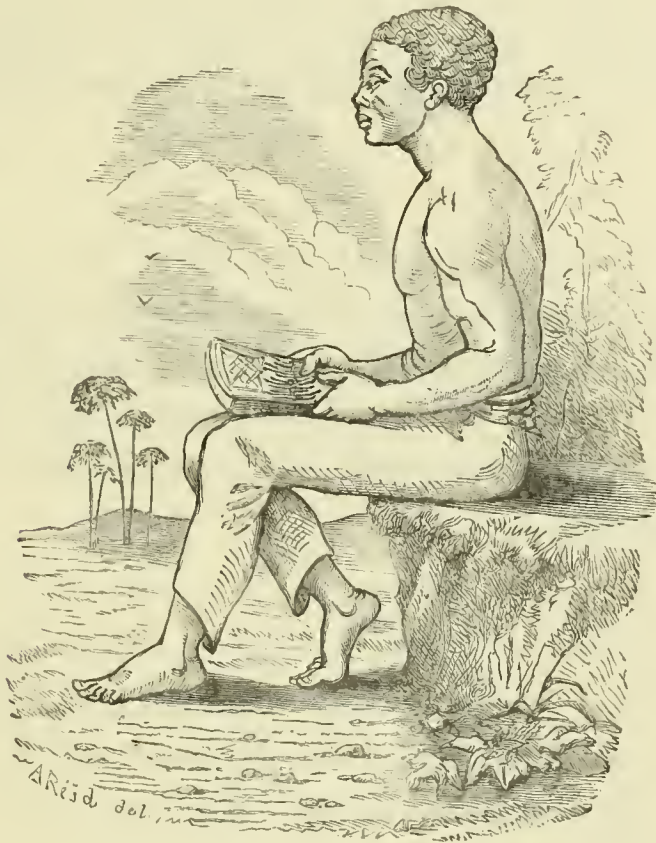


Fig. 138.—ZANZE. Western Africa.

Rude instruments made of vibrating tongues, either of hard sonorous wood or of metal, are especially common with the negroes. The *zanze*, or *sanfa*, is to be found principally among the Negro tribes of upper and lower Guinea. Similar instruments are the *kassangah* at Delagoa Bay and in the neighbouring district, South-eastern Africa; the *ibeka* of

the Bakalai, a Negro tribe in Western Africa near the Gaboon river ; the *ambira*, popular at Mozambique, East Africa ; the *vissandschi*, at Congo and Benguela ; and others. As regards the usual arrangement of musical intervals on this class of instruments, the specimens which have been brought to Europe are rarely in a condition to enlighten the inquirer. In several of them the tongues were inserted so as to allow their being pushed deeper into the wood, or drawn out to a greater length, at pleasure. Perhaps this is an expedient for the purpose of tuning them in conformity with any particular melody which the performer wishes to play, and which, as the Negro melodies are generally very short, he may produce by means of the tongues thus arranged, if he vibrates them in succession, meanwhile observing the rhythm of the melody. At any rate, there are other instruments among uncivilized nations in which the tones appear to be regulated with this object rather than for the introduction of a regular musical scale.

**R**EBAB ; also called *kemangeh*. With bow, ornamented. Two-stringed. The body of wood, over which parchment is stretched, with carved neck, and recurved head. The bow incised and inlaid with pieces of coloured cloth under glass. Province of Suz, *Southern Morocco*. 19th century. (Lent by T. Blackmore, Esq.)

**F**LUTE and Tobacco Pipe, combined. Formed of a cocoa-nut shell with two engraved canes. Obtained from an itinerant musician at Fez, *Northern Morocco*. (Lent by T. Blackmore, Esq.)

**D**ERBOUKA (or *Darabouka*). A small species of hand-drum. Painted earthenware, vase-shaped ; the top covered with painted bladder. It is played by striking with



the fingers. Tetuan, *Northern Morocco*. 19th century. (Lent by T. Blackmore, Esq.)

**T**EBEL (or *Tabl.*) Drum. Formed of a cylinder of glazed earthenware with blue decoration, one end covered with bladder. From Fez, *Northern Morocco*. (Lent by T. Blackmore, Esq.)

**T**OBILETS. Double Drum. Formed of two earthen jars covered with hide, and united by thongs of the same material. From Fez, *Northern Morocco*. (Lent by T. Blackmore, Esq.)

**D**AÏKO. Drum. Wood; the sides covered with parchment painted with dragons. *Japanese*. 19th century (Lent by Marcus Flowers, Esq.)

**G**UNIBRY. An instrument of the tamboura family. With plectrum. Two-stringed. The body of wood, over which parchment is stretched. *Morocco*. (Lent by T. Blackmore, Esq.)

**G**ONG. Large, bronze, with central boss. *Northern Shan States, Asia*. (Lent by Major E. B. Sladen.)

**G**ONG. White metal. Used by the Shans and Burmese. (Lent by Major E. B. Sladen.)

**G**ONG. Small. White metal, with central boss. *Northern Shan States.* (Lent by Major E. B. Sladen.)

**G**ONGS. Two, white metal. *Chinese.* (Lent by William Tayler, Esq.)

**B**ELL. Bronze, suspended in carved wooden frame. *Chinese.* (Lent by William Tayler, Esq.)

**B**ELLS. Bronze and iron. *Burmese.* (Lent by William Tayler, Esq.)

These bells are suspended from the roofs of the Buddhist temples. Attached to the clapper is a thin metal plate shaped like a leaf. A moderate current of air is sufficient to cause the bell to ring. The custom of adorning the temples with these bells is evidently very ancient. Sir Stamford Raffles found such a bell in the ruins of a temple in Java. Marco Polo, who travelled in Asia during the second half of the 13th century, saw in a town of Burmah called Mien, which is supposed to have been Ava, two towers of pyramidal shape, constructed of marble, which stood near the sepulchre of a king; each tower terminated in a ball, around which were suspended small bells, described by Marco Polo as being of gold and silver, but which most likely were of bronze gilt. When agitated by the wind they made a continual tinkling. A recent traveller in China describes a Pagoda in the vicinity of Shanghai as follows: "It consists of eight stories, each about 15 feet in height, making with the dome and ball its total elevation 150 feet. Its shape is octagonal, and each story is provided with a covered verandah, having a projecting roof, at the corners of which are hung small bells of different tones, and as there are 64 of them, which are kept in almost constant motion by the wind, the sound they produce is exceedingly pleasing, greatly resembling the wild Æolian harp."

**B**ELL. Mixed metal, with handle in form of the *Dorjé*, or sacred thunderbolt. *Nepaulese.* (Lent by William Tayler, Esq.)

The scepter (*dorjé*, *i.e.* "thunderbolt") is held in the hand by the Buddhist priest during prayer. The ritualistic instruments of the Buddhist priest in Ladák, or Middle Thibet, are three, *viz.*: the bell, *drilbu*; the scepter, *dorjé*; and the prayer-cylinder, *mani-chhoo-khor* (*i.e.* "the precious religious wheel"). The *drilbu* is tinkled during the performance of daily service. It is depicted in the left hand of the great Lama, Skyobba Jigten, of the red sect; and it is placed on the throne at the feet of the great Dalai Lama, Navang Lozang.

**B**ELLS. Five, sacred, brass. *Indian.* (Lent by William Tayler, Esq.)

These hand-bells are of the kind called *ghunta* used by the Brahminic priests. Scarcely any sacrifice or oblation is performed by them in the temple without a preliminary tinkling of the *ghunta*, which is repeated at certain intervals according to the ritual. The handle of the *ghunta* not unfrequently represents the figure of Hanumun, one of the Hindu deities.

**D**DRUM. *English.* Modern. (Lent by Messrs. Rudall, Rose, Carte, and Co.) Deposited in the Educational Department.

**C**ONCERTINA. With twenty-four keys. *English.* Modern. (Lent by Messrs. C. Wheatstone and Co.) Deposited in the Educational Department.

**C**ONCERTINA. With forty-eight keys. *English.* Modern. (Lent by Messrs. C. Wheatstone and Co.) Deposited in the Educational Department.

**O**RGAN Accordion. Invented by Haskin. *English.* Modern. (Lent by Messrs. Chappell and Co.) Deposited in the Educational Department.



**C**OTTAGE Harmonium. In oak case. *English.* Modern. (Lent by Messrs. Chappell and Co.) Deposited in the Educational Department.

**H**ARMONIUM. Polished deal. Four octaves. As used in Swedish schools, and costing in that country 4*l.* 14*s.* 5*d.* Made by A. G. Wildgren, of Stockholm. From the Swedish School House in the International Exhibition of 1871. Deposited in the Educational Department.

**H**ARMONIUM. In mahogany case. Five octaves. *English.* Modern. (Lent by Mr. J. Hillier.) Deposited in the Educational Department.

**C**HROMATIC Harmonium. Rosewood. Peculiarly constructed keyboard, "showing the twenty-four progressions. The common method is seen at the back of the instrument in connexion with the keys." *English.* Modern. (Lent by Mrs. Read.) Deposited in the Educational Department.

**S**OL-FA Harmonicon. Invented by Miss Glover. Intended as an assistance in learning singing, and the theory of music. *English.* Modern. (Lent by Miss Glover.) Deposited in the Educational Department.

**C**HROMATIC Pianoforte. Rosewood. Peculiarly constructed key-board, in which the keys are distinguished by different colours. Intended to facilitate the playing in the different major and minor keys. *English.* Modern. (Lent by Mrs. Read.) Deposited in the Educational Department.

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**B**IJOU Pianoforte. In polished ashwood case. *English.*  
Modern. (Lent by Messrs. J. and J. Hopkinson.)  
Deposited in the Educational Department.

**P**IANOFORTE. With check action. In black walnut  
case. *English.* Modern. (Lent by Messrs. Chappell  
and Co.) Deposited in the Educational Department.

**P**IANOFORTE (called by its maker "Euphonic").  
Steward's patent. The case is rosewood. The strings  
are stretched on an iron frame, which rises upward in harp-like  
shape, and behind which are three sound-boards of satin-wood,  
in form somewhat resembling that of the violin. *English.*  
About 1840. (Lent by the Rev. H. R. Haweis.)

In the year 1841, John Steward took out a patent for "applying  
to the pianoforte sound-boards on frames, and affixing such frames at  
intervals to the iron frame which bears the strain of the strings. In  
the instance shown there are three sound-boards, the treble, the tenor,  
and the bass, the latter being considerably larger than either of the others,  
and fitted to the largest compartment of the frame."

**O**RGAN Pipes. A selection in illustration of their manu-  
facture, showing the middle C pipe of each stop.  
*English.* Modern. (Lent by Messrs. Speechly and Ingram.)  
Deposited in the Educational Department.

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*INSTRUMENTS LENT BY MR. CARL ENGEL.*

## PURPOSE OF THE COLLECTION.



HIS collection was formed for the purpose of illustrating the characteristics of the musical instruments which were used by our forefathers, and which are now fallen into oblivion. The collection comprises the most popular kinds from the time of Queen Elizabeth until the beginning of the present century. The instruments are, with a few exceptions, in their original condition. Wherever an alteration has been made by modern hands it will be pointed out in the following account. Unimpaired specimens of some kinds are, indeed, now rarely met with; generally, they have been altered in the course of time to fit them to modern requirements; and those which have escaped modernization are, in some instances, in so dilapidated a condition as not to allow of being strung and played upon in the old way. It may, therefore, be interesting to musicians to examine the present collection.

The special aim has been to illustrate the various classes of stringed instruments. Not only were the stringed instruments more universally employed, in social circles, than the wind instruments and the instruments of percussion, but they are also, on the whole, the most important in musical performances. At any rate, it is especially through an acquaintance with the stringed instruments of our ancestors that we are able to obtain an accurate impression of the characteristics of the instrumental performances of the olden time.

In the belief that further researches will more and more establish the opinion that by far the greater number of our musical instruments had their origin in the East, several rude instruments have been placed in the collection, belonging to Asiatic and other extra-European nations, which will enable anyone interested in this question to form his own opinion upon it. These foreign instruments will be described first, in order to show the gradual progress from primitive to elaborate contrivances.

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## EXTRA-EUROPEAN INSTRUMENTS.

(1.)



**B**ONE-FLUTE of the Caribi Indians in Guiana. Consists merely of the bone of a jaguar, into which three finger-holes have been bored. The mouth-hole, which is at one end, is partly filled with a dark cement to narrow the aperture. A tuft of bright-coloured feathers is generally attached, by way of ornament, to a string tied to the bone. *South American.* Modern.

This instrument has at all events the merit of being the least pretentious one in the collection. The ancient American Indians not unfrequently used the bones of slain enemies for such flutes; and some tribes in South America are said to have preserved this custom even to the present day.

(156.)

**D**ANCING Rattles of the Indians in the vicinity of the river Amazon, *Brazil.*

They are made of a species of nut, a number of which are hollowed and suspended on a cord to be hung over the shoulders. By way of embellishment some bright feathers and the tail of a quadruped are interspersed between the nuts.

(146.)

**B**ELAPELLA. A rattle of the Indians of Vancouver Island, *North-western America.* Of wood, formed in imitation of a bird, and painted with different colours. Containing pebbles. Used by the "Medicine men."

(147.)

**B**ELAPELLA. A rattle of the Indians of Vancouver Island. Of wood, formed in imitation of a fish, and coloured. *North-western America.*

(155.)

**S**AKASAKA. A rattle of the Negroes of Santa Lucia, West Indies. Ornamented with some rude designs cut on the surface. It contains in the inside a number of small red berries of an oval shape, known as Jamboo berries.

(62.)

**M**AROUVANÉ. Bamboo instrument from *Madagascar*. L. 1 ft. 9 in. The seven strings are cut out of the bark of the bamboo, and are raised by bridges consisting of little plugs of wood.



Fig. 139.—MAROUVANÉ. Madagascar.

The *marouvané*, also called *valiha*, has often affixed beneath it a palm leaf, in the shape of a basket, which is perhaps intended to serve as a sound-board. The tone is, however, as might be expected from the nature of the strings, by no means brilliant. But, as regards outward appearance, the *marouvané* deserves to be classed with the most singular musical instruments. The natives of Madagascar are said to be as much fascinated by its sound as the Swiss are by the sound of the Alphorn. Similar instruments are the *sousounou*, or *akadu*, constructed by the natives of the island of Timor, and the *gendang boeloe* of the Battahs in Sumatra. Also the Dyaks in Borneo construct a stringed instrument of bamboo which resembles the *marouvané*.

(2.)

**G**UNIBRY. A rather primitive instrument of the guitar kind, played with a quill split in two. Its body consists

of the half of a bottle-pumpkin covered with sheep's skin, and its two strings are of catgut. *Morocco*. Modern.

The *gunibry* is also found in Algiers, where it is said to have been introduced from Morocco.

(3.)

**G**UNIBRY. The body consists of the shell of a tortoise, *Morocco*. Modern.

This contrivance is not uncommon, and is evidently of high antiquity. *Hermes* made his lyre of a tortoise which he found near the Nile.

(4.)

**S**MALL Kuitra. Like the *gunibry* an instrument of the Arab descendants in *Northern Africa*, chiefly used in Tunis. It has three pairs of catgut strings. Modern.

The larger and more common *kuitra*, popular in Tunis, has four pairs of strings. Each pair is tuned in unison, and the instrument is played with a little plectrum. The body of the present specimen consists of the shell of a tortoise.

(63.)

**I**NGOMBA. A negro drum from Lower Guinea, *Western Africa*. Made of the stem of a palm tree 6 ft. 6 in. long. Covered at both ends with the skin of an elephant's ear.

(135.)

**V**ALGA. From Congo, *Western Africa*. It has five strings, made of a vegetable fibre, which are tuned by being wound round five canes inserted in the body. L. 3 ft.



The *valga* is known by different names in different districts of Western Africa. In Benguela it is called *kiffumba*, and near the Gaboon river, *wambee*.

(5.)

**K**ASSO. A negro instrument. The body made of a huge pumpkin, the strings of the tough fibres of a creeping plant. *Senegambia*. Modern.

One or two of the strings, which were broken, have been replaced by catgut strings.

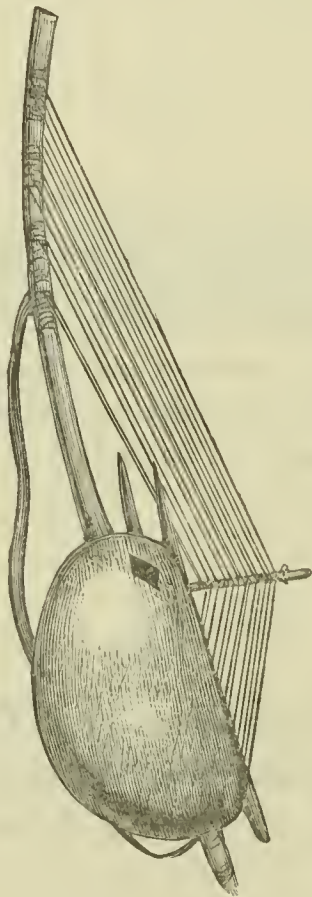


Fig. 140.—KASSO. A Negro Instrument.

(6.)

**S**ANCHO. The body of wood covered with snake's skin. *Senegambia*. Modern.

It has ivory tuning pegs not unlike those of a violin, and there is an F-hole on one side of the body; from which one might conclude that the negro manufacturer of this instrument had taken a hint from seeing a European fiddle. Generally, the *sancho* is tuned by means of movable rings, like the *kaffo*. At least, such is the contrivance of several of these instruments which have been brought to England from different parts of Western Africa.

(7.)

**T**AMBOURA *baghlama*. Four wire strings, which are twanged with a plectrum. *Egyptian*. Modern.

The *tamboura baghlama* may be regarded as the Eastern mandoline. *Baghlama* signifies "small," and this instrument is the smallest-sized *tamboura*.

Various kinds of the *tamboura* are to be found in Egypt, Asiatic Turkey, Persia, and Hindustan.

(134.)

**A**BYSSINIAN Fiddle, with bow. The whole instrument is cut out of one block of wood. Seven catgut strings.

There are some musical instruments to be found on the eastern coast of Africa which probably were derived originally from Hindustan. The present fiddle, which in shape bears some resemblance to the *chikarah* of the Hindus, was brought to England by a soldier engaged in the Abyssinian war, and confutes the statement of Bruce and some other travellers, that the Abyssinians possessed no instruments of the violin class.

(143.)

**R**EBAB. *Persian*. Probably of the present century. The body cut out of a single piece of wood, is rudely ornamented with a pattern which is burnt on it. The instrument has three strings of catgut, which near the top run through holes, and are fastened at the back to the tuning-pegs.

This *rebab* is an exact counterpart of the *rebec* formerly popular in Western Europe.

(79.)

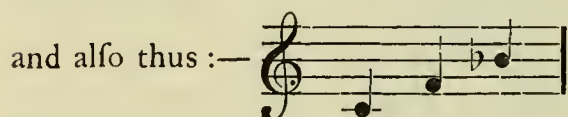
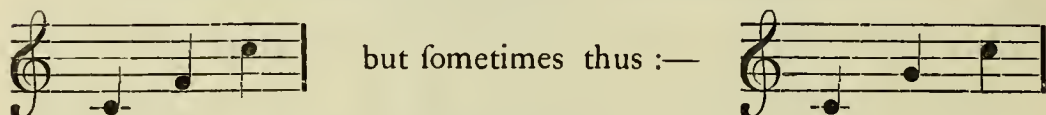
**K**EMÂNGEH a'gouz. With bow. *Egyptian*. A species of Eastern violoncello, with two strings made of horse-hair. The body consists of the shell of a cocoa-nut, covered at the top with a bladder, and perforated at the back with a number of sound-holes.

(80.)

**S**AMSIEN. With a large plectrum of a white wood. *Japan*. Its three strings are of silk. The body is square, and is covered in front and at the back with parchment.

The *samsien* is played especially by the Japanese ladies, and is as great a favourite with them as the lute was formerly with us.

It is usually tuned in the following order of intervals :—



(8.)

**Y**UE-KIN, or “Moon-guitar.” Mounted with four filken strings, which are arranged in two pairs, each pair being in unison. The two tones thereby produced are tuned in the interval of a fifth from each other. *Chinese*. Modern.

This grotesquely-shaped instrument is a favourite one of the Chinese. The Canton pronunciation of *yue-kin* is *yuet-kum*, and this may be the reason why some European travellers in China have called the instrument *gut-komm*. The wood of which it is made is called by the



Chinese *swan-che*. The strings are twanged with a plectrum, or with the nails, which, it will be remembered, are grown by the Chinese to an extravagant length.

(9.)

**YUE-KIN.** Strung with catgut strings. *Chinese*. Modern.

The employment of catgut strings is probably an innovation, since we find in the old descriptions which the Chinese possess of their musical instruments only filken and wire strings mentioned as being used by them.

(10.)

**PEPA.** Made of a wood called *wootung*. The four strings, which are of silk, are tuned in the intervals of fourths from each other. *Chinese*. Modern.

Chiefly played by the Chinese ladies. As a curiosity, it may be mentioned that both the *pepa* and the *yue-kin* have generally some loose and tinkling metal inside, which is probably intended to produce a rhythmical effect when the instrument is occasionally shaken while it is being played.

(11.)

**SAN-HEEN.** Made of a hard wood called *swan*, imported into China from Siam and Tonquin. The body is covered, at the back as well as in front, with the skin of a snake, called *tan*. Its three strings are of silk, and are tuned in the intervals of fourths to each other. *Chinese*. Modern.

A favourite instrument of the Chinese. It is noteworthy that, although the two semi-tones of the diatonic scale are producible on the *san-heen*, *pepa*, and *yue-kin*, the Chinese generally avoid them in their performances. Like the Malaysian Islanders, the Chinese have a natural predilection for that series of intervals which may be called the Pentatonic Scale, because it contains only five different intervals in the compass of an octave.

(12.)

**T**CHE, or *Tsang*. Mounted with sixteen thin wire strings, which are placed over sixteen movable bridges. *Chinese*. Modern.

The Chinese have several kinds of *tche*. Those used in former times had not the large tuning-pegs found on the present specimen, and had fewer strings. The species here exhibited is played with the fingers.

(13.)

**Y**ANG-KIN. Played with two little sticks of a rather peculiar shape. It has two bridges, and is mounted with very thin brass strings, which are placed so as to run alternately through one of the two bridges and over the other. *Chinese*. Modern.

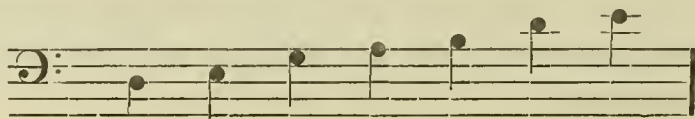
The resemblance of the *yang-kin* to our dulcimer, and to the *fantir* of the Arabs and Persians, is very remarkable, and suggests various conjectures as to its origin.

(14.)

**K**IN, or "Scholar's Lute." Made of the *wootung* wood (*Dryandria condifolia*). It is lacquered; and there are two apertures below, serving as sound-holes. Its strings, of which there are seven, are of silk. *Chinese*. Modern.

The *kin* bears no resemblance to a lute, and the name "scholar's lute" appears rather inappropriate; it is, however, generally so designated by European travellers in China, perhaps because it is especially played by Chinese scholars and philosophers.

When the Chinese scholar feels inclined to play upon his *kin* he takes the instrument out of its case and places it upon a table, so that the long silken tassels, which are attached to the tuning-pegs beneath, hang down over the edge of the table. He then tunes the strings in a series of intervals in the following order:—



adopting the pitch according to his fancy. He twangs the strings with his fingers, and obtains the tones which he requires by pressing the strings down at the places indicated by little studs of mother-of-pearl.

The *kin* was the favourite instrument of the philosopher Confucius.

(15.)

**URH-HEEN.** A Chinese fiddle. Generally has only two strings; the present specimen has four. Its body is covered at the top with the skin of the snake called *tan*, a small species of the genus *Boa*. *Chinese*. Modern.

As an oddity it may be pointed out that the bow is attached to the strings in such a manner that the hair passes between them. It is said, and may easily be believed, that the Chinese violinists have to practise very assiduously before they can wield with dexterity the bow thus placed.

(132.)

**HUEN-TCHUNG.** Antique Chinese bell. Supposed to be very old. (See Fig. 41.)

The Chinese mandarins are as zealous collectors of antiquities as any Englishman, and it is said that occasionally clever reproductions of scarce archæological curiosities are provided for them by cunning Chinese artificers.

(16.)

**THRO,** or *Tarau*. Burmese violin. The *thro* has three strings, as was the case with our *rebec* of olden time and as in the present day the *rebab* of the nations of Arab descent is often strung. The top of the finger-board is ornamented with carvings in wood, and with a figure in ivory of a little idol. The strings are of silk. *Burmese*. Modern.

Nasal as its tone may appear to us, the *thro* is certainly a superior contrivance if compared with the *urh-heen* of the Chinese. From an



examination of a MS. collection of about thirty popular Burmese tunes, as they are usually played on the *thro*, written down by an English gentleman residing in Rangoon, it would appear that when the Burmese musician accompanies his vocal effusions with the *thro*, he plays the melody in unison with his voice, indulging, however, occasionally in more or less extended interludes, performed as a *solo* on the instrument between the strophes of his song.

(175.)

**T**HRO. Burmese violin. The head elaborately carved. Three filken strings. *Burmese*. Made probably in the 18th century, if not earlier.

(151.)

**K**HEW. A small bell. *Burmese*. 19th century. To the clapper is attached a thin plate of metal, gilt, in the form of a leaf. A number of these bells are generally suspended from the roofs or projections of the different stories of the Buddhist temples. The wind moving the leaf causes the clapper to strike the bell. The sound of the *khew* is remarkably clear and sustained.

(61.)

**S**ARINDA; also called *chihikong*. A Hindu violin with three strings. It is made of a single block of wood, hollowed and carved. The upper part of the body is left partially open, and is partially covered with skin resembling bladder, generally from a species of gazelle. *Indian*.

(144.)

**C**HIKARAH. *Indian* (from Bombay). An instrument of the violin class. It is cut out of a single block of wood, which, when rubbed or damped, emits a peculiar aromatic

cent. The belly is of parchment. Three catgut strings, beneath which are placed seven thin wire strings.

(145.)

**S**ARUNGI. *Indian* (from Bombay). An instrument of the violin class. Four catgut strings, and beneath them thirteen "sympathetic" strings of thin brass wire.

The performer on the *farungi* does not press the catgut strings down upon the finger-board, but touches them at the side with his fingers to produce the tones which he desires. When played upon, the *farungi* is not held like our violin; the performer places it before his breast in a nearly perpendicular direction.

(17.)

**S**ITAR. Five wire strings. Originally the *fitar* was made with three strings; hence its name. The body is made of a gourd and of cocoa wood. The neck has movable frets, which enable the performer to alter the order of intervals or the musical scale whenever he finds it expedient. In playing, the musician twangs the strings with a little plectrum called *mizrab*, which is made of a piece of wire curiously twisted, and which he has attached to the forefinger of his right hand. *Indian*. Modern.

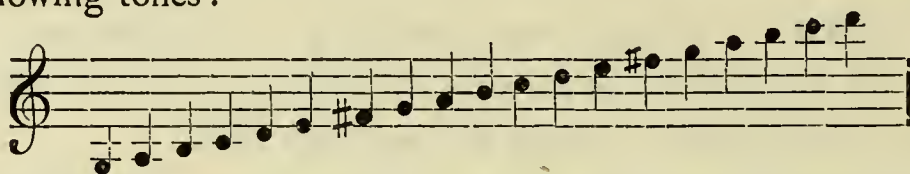
There are, it is said, among the professional musicians in Hindustan *fitar* players who enrapture their auditory as much as any fashionable virtuoso in Europe.

(153.)

**N**AGARAH. A drum formed of an earthenware bowl, over which hide is stretched. *Indian* (from Surat). Diam. at the top, 16 in., H. 6½ in.

(18.)

**R**ANAT. A harmonicon. *Siamese*. Modern. The nineteen flabs of sonorous wood, when vibrated by being struck with the stick belonging to the instrument, produce the following tones:—



It will be observed that the *ranat* has the diatonic scale, which is not the case with several instruments of this kind common in Java and other Malaysian islands. These have usually the pentatonic scale, *i.e.*, the diatonic intervals with the exception of the two semi-tones.

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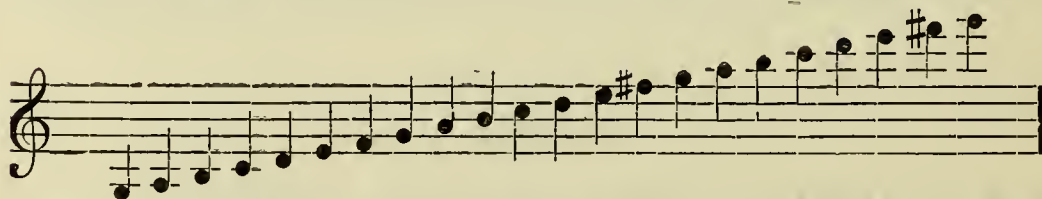
### EUROPEAN INSTRUMENTS.

Most of these are, as has already been intimated, long since out of fashion, but the names of them are familiar to musical inquirers, being mentioned not unfrequently in our classical literature; and some of the instruments were, two or three centuries ago, as popular as the pianoforte and the harmonium are at the present time.

### PULSATILE AND WIND INSTRUMENTS.

(74.)

**E**CHELETTE. *French*. 18th century. It has twenty-two flabs of a hard wood, which, when struck with the little mallets belonging to it, give the following tones:—



It will be observed that the lowest tone (produced by the longest and thinnest flab) is the dominant of C-major, and that the upper arrangement of intervals is according to the scale of G-major.



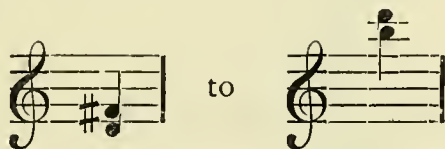
(64.)

**S**MALL Flageolet. *English.* With seven finger-holes, greatly varying in size for the sake of insuring a correct intonation.

(65.)

**D**DOUBLE Flageolet. *English.* Beginning of the present century. Made by Bainbridge, London.

In the year 1819, Bainbridge took out a patent for the construction of such instruments. According to a statement in the 'Harmonicon,' London, 1830, he invented in the year 1804, "a mode, with the assistance of keys, to fix two of his single flageolets together, or rather two bodies in one head, which became exceedingly fashionable; for, music in two parts from—

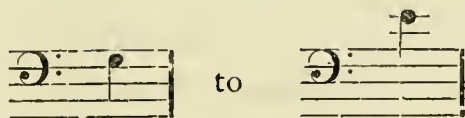


could be easily performed on this double flageolet."

(66.)

**T**RIPLE Flageolet. *English.* Beginning of the present century. Made by Bainbridge.

Less common than the double flageolet, but equally useful for musical performances of the present day. The 'Harmonicon,' London, 1830, records:—"Within these few years Mr. Bainbridge has added a bass joint to his double flageolet, the compass of which is from—



and the tone resembles the lower notes on a German flute. The effect produced by the combination of three notes is very good and mellifluous. The bass joint is fixed at the back of the double flageolet, and the breath

is conveyed by means of a tube ; and by the introduction of what are termed stop-keys, a solo, duet, or trio may be instantaneously performed. The bass notes are produced by keys pressed with the thumb of the left hand." The writer remarks that "this instrument being purely English, I consider it deserving of being recorded as a very ingenious invention."

(67.)

**F**LUTE à bec. *English.* About 1700. Boxwood and Ivory. L. 1 ft. 6 in. Eight finger-holes, and without any key.

(173.)

**T**ENOR Flute. *German.* About the year 1600. L. 2 ft. 9 in. Seven finger-holes and one key.

(68.)

**B**ASS Flute. *English.* About 1650. (See the engraving, Fig. 141.) With a brass tube for blowing the instrument. Six finger-holes, and one brass key at the upper side, and one finger-hole for the thumb at the opposite side. L. 3 ft. 8 in.

The bass flute had not unfrequently a wooden cylinder inserted in the lower end of the tube, about two feet in length, terminating in a round knob. Its purpose was to prevent the tube touching the ground when the performer was seated. This contrivance accounts for the bass flute having generally a large hole at the side near the lower end, which evidently served as a substitute for the hole at the end closed by the cylinder or tail-piece. Including this cylinder, the bass flute measures nearly six feet in length. A number of performers playing in concert on flutes of such enormous dimensions must have been a rather imposing sight. But the effect produced by the performance, however beautiful the music may have been, would certainly appear at the present day somewhat ludicrous, considering the weakness of the sound emitted by these huge flutes.

In the inventory of the collection of musical instruments which belonged to King Henry VIII., compiled by Philip van Wilder, a Dutch

lute-player in the service of the king, the manuscript of which is preserved in the British Museum, we find entered: "Flutes called Pilgrims' Staves; a great base recorder; two base recorders of walnut."

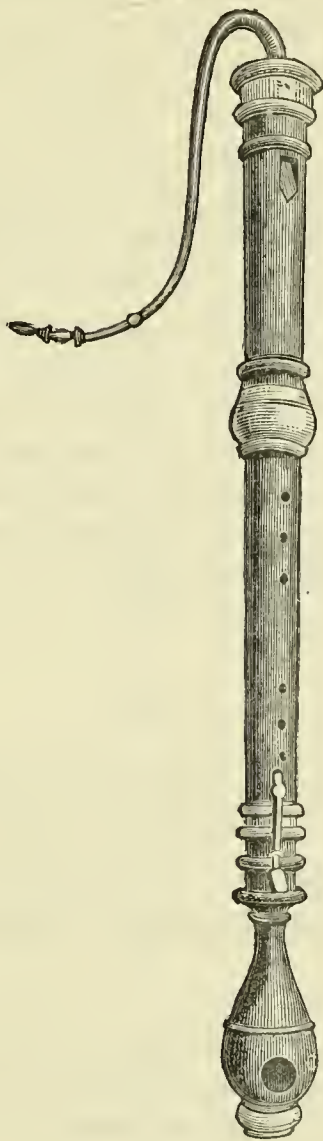


Fig. 141.—BASS FLUTE. English.

(69.)

**SERPENT.** *English.* Beginning of the present century. Wood, covered with leather. Several brass keys, and a brass tube for blowing the instrument. Made by Gerock Wolf, in London.

The invention of the *serpent* is attributed to Edme Guillaume, a canon of Auxerre in France, anno 1590. It was, however, no new



invention, properly speaking, but merely an improvement upon the old *bafs-zinken*, the management of which was rendered more convenient by giving a serpentine winding to the tube. This instrument subsequently became rather popular. It was used in military bands and in processions until about the middle of the present century. The French made use of it also in church to support the voices. Towards the end of the eighteenth century it appears to have still been a common substitute for the organ in France. Dr. Burney, in his 'Journal,' London, 1773, states that he frequently met with it in the churches of that country, and he expresses a more favourable opinion of its suitability for promoting edification than might have been expected from a refined musician:—  
 "It gives the tone in chanting, and plays the bass when they sing in parts. It is often ill-played, but if judiciously used would have a good effect. It is, however, in general overblown, and too powerful for the voices it accompanies; otherwise, it mixes with them better than the organ, as it can augment or diminish a sound with more delicacy, and is less likely to overpower or destroy, by a bad temperament, that perfect one of which the voice only is capable."

(70.)

**H**ORN. Made in the shape of the Roman *cornu*. *English*.  
 About 1700. This horn, which is of brass, terminates in the head of a serpent. It is probably the "lesard" (or lizard) mentioned by English writers about two hundred years ago.

A "lezarden" is recorded among the musical instruments of Sir Thomas Kytson of Hengrave Hall, about the year 1600 ('The History and Antiquities of Hengrave, Suffolk, by John Gage,' London, 1822).

(130.)

**A**LPHORN. Of birchwood; neatly covered with birch-bark. *Switzerland*. L. 8 ft. 1 in. Made by M. von Euw in Bürgy, Rigi Kulm, Canton Swyz. The tube is straight.

There are three forms of the Alphorn. That of the present instrument is used in the Cantons Appenzell and Swyz. The Alphorn

with a thicker tube than this one, and somewhat curved at the broadest end, is used principally in the Bernese Oberland. The third form, probably a rather modern adoption to render the instrument more handy, is that resembling the trumpet, as the tube is wound several times round in an oval shape. This kind of Alphorn is chiefly used in the Cantons Uri, Unterwalden, and Swyz.

(78.)

**B**ORDER Bagpipe. *English.* From Northumberland. With bellows. Four drones. The chanter is of cocoa wood, neatly made, and provided with brass keys.

---

LUTES, GUITARS, AND SIMILAR INSTRUMENTS.

All of these have catgut strings, and, except one or two kinds, are twanged with the fingers instead of a plectrum.

(19.)

**L**UTE, or Testudo Theorbata. Double neck and thirteen strings. *English.* About 1650.

This instrument resembles the figure of the "Old English Lute" given by Thomas Mace in his 'Musick's Monuments,' London, 1676. Mace says: "The theorboe is no other than which we call'd the Old English Lute." On the *theorbo* used on the continent, however, the neck for the bass strings was much longer than it is on the present specimen. The strings for the higher tones, except the highest of all, are arranged in pairs, each pair being tuned in unison. The highest string was called the *chanterelle*, because it was chiefly used for playing the melody, while the others were used for the accompaniment.

(149.)

**L**UTE. *French.* 17th century. The neck has been altered in the 18th century.

(20.)

**L**UTE. *Italian.* About 1580. From an old inscription inside, now greatly obliterated, it would appear that this lute was made by Magnus Tieffenbrucker in Venice.

In some old German books we find it mentioned that this species of lute,—with the body inlaid with ivory and various woods, with a thick and heavy head for the tuning-pegs, and three sound-holes placed behind the strings,—was chiefly made in Rome, and was therefore called the “Roman Lute.” In the present specimen some of the ivory work has been restored; in all other respects it is in its original condition.

It may not be out of place here to say a few words respecting the family of Tieffenbrucker, which may perhaps afford a hint to musicians interested in the history of the violin.

There lived in Venice in the latter half of the sixteenth, and beginning of the seventeenth century, three celebrated lute makers of this family, viz., Magnus, Vendelino, and Leonardo Tieffenbrucker. The name is evidently German, and it appears very probable that they came to Italy from the Tyrol, like Jacob Stainer and some other celebrated instrument makers. Now, we find that the name of the earliest violin maker in Italy, whose instruments are still highly appreciated, was Gaspard Duiffoprugcar. Scarcely more is known of this celebrated maker than that he was born in the Tyrol, and lived in Bologna about the year 1510. Further inquiries may perhaps elicit that his name, properly spelt, was Tieffenbrucker, and that he belonged to the above family. About three centuries ago, as is well-known, orthography was rather unsettled, and even the names of persons were not unfrequently written in different ways. Indeed this was still the case in the last century. Handel wrote his name in Italy *Hendel*, in Germany *Hændel*, and in England *Handel*. Gluck wrote himself in Germany *Glück*. Furthermore, it may be surmised that all the Tieffenbruckers were makers of violins as well as of lutes. It evidently was in their time usual for men following their occupation to combine the making of instruments of the violin class with that of lutes. In France, at the present day, the violin makers are called *luthiers*.

In support of the above supposition may be cited the inscription *Magno Dieffopruchar a Venetia* 1612, in a lute deposited in the Liceo Comunale di Musica at Bologna, and another inscription with the name of the same maker spelt slightly differently, viz., *Magno Dieffoprukhar*



*a Venetia* 1607, in an old Italian lute belonging to Prince Moriz Lobkowitz in Eifenberg, Bohemia.

(71.)

**L**UTE. *German.* Made by Jacobus Heinrich Goldt in Hamburg, Anno 1712.

According to an inscription inside, it was altered, in the year 1753. To judge from the holes in the old bridge still retained it had originally twenty-one strings. By the alteration it has assumed more the character of a guitar.

(21.)

**L**UTE. *Italian.* Early 15th century. This instrument is especially interesting, inasmuch as it has attained the venerable age of four hundred and fifty years. It is the work of Laux (or Lucas) Maler, a German, who lived in Bologna about 1415, and who may be considered as the Amati of the old lute makers.

At the time when Thomas Mace wrote his book before-mentioned, which, it must be remembered, was two hundred years ago, when the value of money was six times higher than it is at the present day,—the lutes of Laux Maler were in high repute, and “pittifull old, batter’d, crack’d things” as they were, according to Mace, they fetched as much as a hundred pounds a-piece.

The present specimen is in a sound state of preservation. Nothing has been altered on it except the tuning-pegs,—brass and ivory screws having been substituted for the original pegs. This contrivance, as well as a painting of flowers on the soundboard, is probably not older than about a hundred years. The cracks on its pear-shaped body have been carefully mended,—not recently, but evidently whenever they occurred in the course of centuries. Its tone is remarkably fine, having an exquisite sonorousness and mellowness of sound. It evidently had originally thinner strings, arranged in pairs, as may be seen by the holes in the bridge. But this arrangement could not now well be restored on account of the substitution of the tuning machine above referred to. The places where some of the ancient tuning-pegs were fixed are still discernible. The knob at one side of the body served for placing the

instrument against a table. It was the custom of lute players, especially at an early time, to rest the instrument against a table instead of holding it fast by means of a band slung round the shoulders.

Through the sound-hole may be seen the name of Laux Maler exactly corresponding with the fac-simile of Maler's autograph given in Gottlieb Baron's work on the lute, entitled, 'Untersuchung des Instruments der Lauten,' Nürnberg, 1727. The wood and varnish are of the kind used by the celebrated Cremona violin makers. Since lutes went out of fashion many valuable ones have been cut to pieces for the purpose of using the wood in restoring valuable Cremona violins; and this is one of the reasons why they are now so scarce. But the chief reason of the scarceness of Laux Maler's lutes is undoubtedly the length of time which has elapsed since they were made.

(86.)

**T**HEORBO. *Italian.* 17th century. Twenty-four strings.  
Ornamented sound-hole.

(171.)

**A**RCHLUTE. *Italian.* Made by Bueckenberg, Rome, 1619. Bueckenberg, a German by birth, was one of the most celebrated lute makers in Italy. He made the back of the lute with narrower slips of wood than most other makers, and his lutes have generally three ornamented sound-holes.

The present archlute has a mechanism by means of which any one of the bass strings by the side of the finger-board can be raised a semitone in pitch.

(170.)

**C**HITARRONE. Large Roman theorbo. With marquetry, and ornamented sound-holes. *Italian.* Made by Bueckenberg in Rome, anno 1614.

(22.)

**T**HEORBINO. A small Theorbo. Sixteen strings, six of which run beside the finger-board. *English.* 17th century.

(24.)

**G**UITARE. The strings, as was often the case, are arranged in pairs tuned in unison. *French.* 17th century. The work of Voboam, a celebrated lute maker of the time of Louis XIV.

The bridge on this instrument is a modern substitution, calculated for six strings. The addition of a sixth string on the guitar is comparatively modern, and is said to have originated in Germany about the year 1780. The sixth string which was added was the lowest one, *e*.

(25.)

**M**ACHÊTE. A small guitar with four strings. *Portuguese.* 18th century.<sup>1</sup>

The *machête* is still played in Madeira as well as in Portugal, and seems, likewise, to have been formerly occasionally used in England. The tone of the present specimen is remarkably voluminous and sonorous, considering the size of the instrument.

(26.)

**Q**UINTERNA, or Chiterna. A species of guitar, somewhat resembling a violin in shape, with three pairs of catgut strings, and two single strings covered with wire. Frets of catgut. *Italian.* 17th century.<sup>2</sup>

Used about two centuries ago, especially in Italy, by the lower orders of musicians and comedians for accompanying their vocal performances.

<sup>1</sup> See also page 254.<sup>2</sup> See also page 247.



It was played with the fingers instead of a plectrum. There is a label inside with the inscription—*Antonius Bachmann Königl: Preus: Hofinstrumentenmacher in Berlin, 1769*; but it is not likely that Antonius Bachmann was the maker of this instrument. It probably dates from the seventeenth century. Bachmann had a reputation not only as a maker of new instruments but also as a successful repairer of old ones.

(27.)

**L**YRE-GUITARE. Its form is an imitation of the *lyra* of the ancients, with the addition of a finger-board in the middle. It is, in fact, nothing but a guitar in the shape of Apollo's lyre. *French.* Period of Louis XV.

During the latter half of the last century the *lyre-guitare* was rather patronised in Paris, especially by the ladies, because playing on it was thought to look graceful. However, owing to the inconvenience of holding it on the lap, and to its possessing no real advantage over the guitar, it was gradually abandoned, while the guitar retained its place.

(76.)

**L**YRE-GUITARE. *French.* Said to have belonged to Queen Marie Antoinette.

The documents in evidence that Marie Antoinette used to play upon it when she was imprisoned, were brought with the instrument from France by Captain Westbrook, but are now missing.

(28.)

**G**UITAR-LYRE. In its construction almost identical with the French *lyre-guitare* (No. 27). *English.* Made by R. Wornum, Wigmore Street, London, about 1770.

(29.)

**H**ARP-GUITAR. *English.* End of 18th century.

(141.)

**H**ARP-GUITAR. *English.* About 1800. Eight-stringed. Painted with flowers, &c. On the finger-board is the inscription *Clementi et Co., London.*

(30.)

**H**ARP-THEORBO. *English.* Made by Walker, about 1800.

The harp-guitar and harp-theorbo were manufactured in England with the intention of improving the sound of the guitar and theorbo by adopting for them the body of the harp.

There was another invention of this kind, called the *harp-lute*, which in shape was exactly like the instrument next described.<sup>1</sup>

(31.)

**D**ITAL Harp. *English.* Recorded to have been invented by Edward Light, London, about the year 1800.

Dr. Busby, in his 'Concert Room and Orchestra Anecdotes,' London, 1825, describes this instrument as follows:—"The *dital harp* (so called from the Italian word *dita*, fingers,—the action or machinery by which the semi-tones are effected being pressed by the finger instead of the foot), though not unlike the harp-lute in form, is totally different in the arrangement of its strings, in the method of performing on it, and in its general effect. This instrument is strong in tone, tuned precisely as is the pedal harp, and is also played upon with both hands, the only difference being that, in the way it is held the order of the strings is inverted, the longest or bass strings being nearest to the performer,—a convenience effected by a simple little machine attached to each string, for which the inventor obtained a patent. The *dital harp* may be played on in all the usual harp keys, and every semi-tone may be expressed at pleasure. Its compass has the extent of three octaves, that

<sup>1</sup> See also page 250.

is, from E-flat below the bass clef to E-flat in alt. Its tone is of a dulcet quality; and unquestionably, the pedal-harp excepted, this instrument is the most eligible accompaniment to the human voice."

(32.)

**H**ARP-VENTURA. Invented at the beginning of the present century by Signor Angelo Benedetto Ventura, professor of music, and teacher of the guitar and harp-lute to the Princess Charlotte of Wales.

Ventura exhibited his invention at the National Repository, Royal Mews, Charing Cross, where he played upon it in public. It is, of course, not to be expected that the *harp-ventura* should vie in quality of sound with an old Italian instrument; and as to its ornamentation of turtle-shell and gilding, the musician is likely to be more pleased with seeing the unadorned fiddle-wood, with the famous varnish upon it, clear as crystal, which distinguishes the instruments of the Cremona makers.

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#### CITHERS, PANDURAS, AND SIMILAR INSTRUMENTS.

One of the most popular instruments in domestic circles about three hundred years ago was the CITHER, also mentioned by the old writers as CITHERN, CITTERN, CYTHORN, &c. It must be remembered that the name of *Cithara* was formerly applied to various stringed instruments, but especially to such as had wire strings which were twanged with a *plectrum*, usually made of a quill or a piece of whalebone.

---

(33.)

**C**ITHER. A specimen of the kind which in England was commonly found in barbers' shops, &c. It is provided with a peculiar contrivance for tuning the strings by means of a watch-key. On the strings is placed a *Capo-tasto*, a contrivance which enabled the performer to raise the pitch



instantly, and to play in different keys with equal facility.  
*English.* About 1700.

(137.)

CITHER. *English.* Made by Remerus Lieffem, London,  
1756.

(34.)

CITHER. Ornamented. *German.* End of the 17th  
century.

Strange enough, the six tones produced by the open strings were usually tuned in an order which made the third tone higher than the fourth (counting from the lowest upwards), thus :—

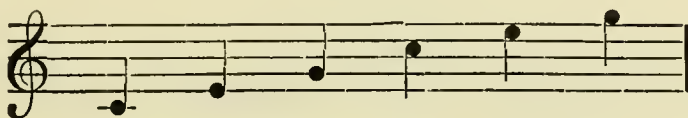


This succession of intervals was probably adopted because when the strings were struck with the quill from the lowest upwards (as was usually done) the *third* of the major chord would be heard before the *octave*, which would heighten the effect.

The old English *cittern* with four double strings of wire, in use at the time of Shakespeare, was tuned in a somewhat similar way; for its intervals were generally arranged thus :—



But afterwards, when the larger species of cither, also called "The English Guitar," came into vogue, we find the following tuning adopted :—



This order of intervals is indicated near the tuning pegs on some of the instruments preserved from the 18th century by the letters C, E, G, C, E, G. Moreover, it is also given as the proper arrangement of the strings in Tanfur's *Musical Grammar and Dictionary*, Stokesley, 1770.

(35.)

**C**ITHARA. A cither with six pairs of strings. Inlaid with mother-of-pearl, tortoise-shell, and ivory. Provided with a *Capo-tasto* of ivory. *Portuguese*. Made by Joan Viera da Silva, at Lisbon, about 1700.

(36.)

**S**MALL Cither. The open strings produce only five tones. Specimens of this kind are now very scarce. *English*. About 1700.

Michael Prætorius, in his 'Theatrum Instrumentorum,' Wolff-enbittel, 1620, gives a drawing of this species of cither. He calls it *Klein Englisch Zitterlein* (i.e., "The small English cithern"), from which it would appear that the Germans considered this instrument as of English origin.

(37.)

**G**ROSS-CITHER. A specimen of the Bijuga Cither. Seventeen wire strings, eight of which are placed near the finger-board; the others, which extend to the higher set of tuning-pegs, serving for the bass notes, run at the side of the finger-board. *German*. 16th century.

The Bijuga Cither (or *Cithara Bijuga*) has, as its name implies, a double neck. Merfenne, in his 'Harmonicorum Libri xii.,' published in 1648, calls also the theorbo by this name, because it had a double neck; but the theorbo is, properly speaking, a lute, and not a cither.

About a hundred years ago, this instrument (No. 37) came into the possession of a citizen of Nürnberg, who has placed his name in the inside. Afterwards it was in a museum of antiquities at Vienna.

(38.)

**L**ARGE Bijuga Cither. Back and sides satinwood. Sixteen strings. *English*. 17th century. (The "Rose" in the found-hole modern.)

Called in Germany *zwölfhörige cither*, because its open strings, the highest of which are in pairs tuned in unison, give twelve different tones. Five of these are unalterable during the performance, as they

are beside the finger-board. This species of cither is probably the *poliphant* mentioned as a favourite instrument of Queen Elizabeth. Playford, in his 'Introduction to the Art of Descant,' London, 1683, while extolling the musical accomplishments of Queen Elizabeth, remarks, "I have been informed by an ancient musician and her servant that she did often recreate herself on an excellent instrument called poliphant, not much unlike a lute, but strung with wire." We possess no reliable information respecting this poliphant (polyphon?), but there appears to be reason to suppose that it was the large species of cither here represented.

The modern German *zither* (also written *zitter* and *cither*), which has not long been introduced into England from Bavaria and Austria, is a very different instrument from any of those just noticed. It rather resembles the dulcimer in shape, and is placed on a table to be played. This horizontal cither was known to our forefathers about three hundred years ago; only it was less pretentious in size and in power of sound than it is at the present day. The Germans called it *scheidholt*. It is still to be found, in its old oblong shape, among the country people in some districts of Germany and France, near to Switzerland.

(142.)

**B**IJUGA Cither. Inlaid with mother-of-pearl, ivory, and ebony. *French.* 18th century.

This elegant species of cither, constructed like the theorbo, but having a flat back, was evidently often in France strung with catgut instead of wire, and played with the fingers like the theorbo. It is probably the same instrument which by some old French writers is called *pandore*, a name which in different centuries and among different nations has been applied to various instruments, the strings of which are vibrated by being twanged with the fingers or with a plectrum.

(75.)

**B**IJUGA Cither. *French.* Made in Paris. About 1750.

(39.)

**B**ÛCHE. *French.* (German, *Scheidholt*.) From Val d'Ajol, in the Vosges mountains in France. Beginning of the present century.



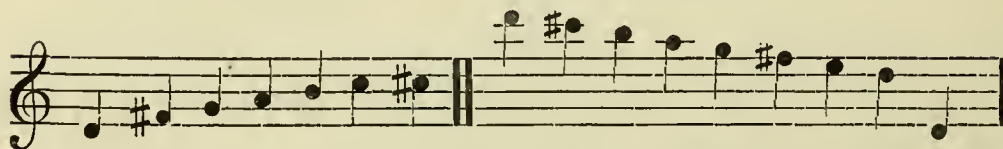
At the present day the people twang it with a quill; but in olden time it was played thus:—The performer, having placed the instrument on a table, twanged the strings with the thumb of his right hand, while he used his left hand in pressing down, by means of a little stick, those strings which are placed over the frets, and which, being tuned in unison, serve for producing the melody. The other strings, tuned a *fifth* lower, were occasionally struck as an accompaniment.

Primitive in construction, and imperfect for our present musical performances as the *scheidholt* is, it nevertheless is interesting, not only on account of its popularity three centuries ago, but also because it is the prototype of the horizontal cither, which has come somewhat in vogue in the present century.

(73.)

**B**ELL Harp. Made by John Simcock in Bath. *English.*  
About 1700. L. 1 ft. 8 in.

It has sixteen tones, which are tuned as follows:—

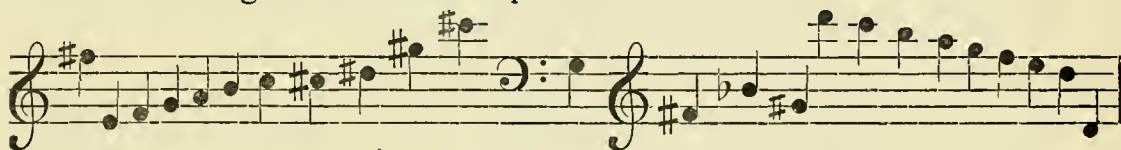


Each tone is produced by three thin brass strings tuned in unison. The strings are sounded by means of two little plectra, or quills, of which the performer fastens one on the thumb of each hand. The two wooden handles, one on each side of the instrument, are for holding the bell-harp while swinging it during the performance, to produce the effect of a distant bell. The description of the bell-harp as given by Graffineau, in his *Musical Dictionary*, London, 1740, is not quite in accordance with that of the present specimen. He says, "It is a musical instrument of the string kind, thus called either because shaped like a bell, or by reason the common players thereon swing it about as a bell on its bias, it being hung on a string, and rested against them for that purpose. Its length is about three feet, its sound-board is usually of the same wood as that of the spinet or harpsichord, having a rose carved in the middle; its strings are of brass or steel wire, fixed at one end, and stretched across the sound-board by screws fixed at the other end next the player. The number of strings is not fixed; sometimes more, sometimes less. They are struck with the thumb only of each hand; the right hand plays the treble, the left hand the bass; but the thumbs are armed with a little wire pin, or needle, in order to draw

the found the clearer. It takes in the compass of three or four octaves, according to the number of strings."

In reality the bell-harp is nearly identical with the psalterium made about three hundred years ago, which the performer held on his lap, and instead of striking the strings with sticks, as in playing the dulcimer, he twanged them with plectra. The maker of the present specimen advertizes himself on a label in another bell-harp:—"John Simcock, in the Right Honourable the Earl of Ancram's regiment of Dragoons, and in Captain Bell's troop, makes, mends, and sells the English harp; also instructs gentlemen in the best mode of playing that instrument." According to Sir John Graham, in his 'Musical Memoirs of Scotland,' the nobleman referred to is William second Marquis of Lothian, who was appointed Colonel of the seventh regiment of Dragoons in 1696, and Colonel of the third regiment of Foot-guards in 1707. Is it not likely that Simcock gave to the instrument the name of bell-harp rather in compliment to his superior, Captain Bell, than with the intention of alluding to the musical effects peculiar to the bell?

He evidently constructed varieties of the instrument. In a specimen which is still extant, the highest tones have each four strings tuned in unison; the others have three, except the deepest, which is produced by a single string covered with wire. This instrument has twenty-four tones, which are arranged in the following peculiar order, counting from the left to the right of the bell-harp:—



The notation is marked in the instrument.

(40.)

**P**ANDURA. Played with a quill like a cither. *Italian.*  
About 1700.

The Pandura was imported from the South of Italy, especially from Naples. Bonanni, in his 'Gabinetto armonico,' Roma, 1722, gives a drawing of it.

Another curious instrument with wire strings, admired by our ancestors, was the *pandore*. There seem to have been formerly three differently shaped instruments in use in England, called by very much the same name, viz., the Italian *pandura*, the English *pandore*, and the *bandoer*. The last-named is recorded to have been invented about the year 1560 by one John Rose, "a citizen of London, living in

Bridewell ;” but it is in reality only a *pandura* with some modifications in shape, as were also the *orpheoreon*, the *penorcon*, and some other kinds of cithers of that period, which evidently did not become very popular.

(41.)

**P**ANDORE. Played with a quill like the cither. *English*.  
17th century.

The Pandore appears to have been rather popular in England about three hundred years ago, and it was evidently tuned much in the same way as the cither ; for in some old books of instruction for the latter instrument the pandore is mentioned as if the treatment of the two were almost the same.

(42.)

**B**ANDURIA. Often strung with wire instead of catgut, and played with a plectrum generally made of tortoise-shell. *Spanish*. 18th century.

The Spanish peasants call their rustic guitar *vihuela* ; and it appears probable that the “gittrons that are called Spanish vials,” mentioned in the list of musical instruments of Henry VIII. (Harl. MSS. 1419, p. 202) were small guitars of this description.

(101.)

**B**ANDURIA. A Spanish instrument of the Mandoline kind ; but most likely made in England. Beginning of the present century. Rosewood, inlaid with yew, mother-of-pearl, &c. Machine head. Three ornamented sound-holes. Twelve strings of catgut arranged in pairs. To be played with a plectrum.

(43.)

**M**ANDOLINO. *Italian (Naples)*. 18th century.<sup>1</sup>

Mozart used an instrument of this description in the serenade in *Don Giovanni*.

<sup>1</sup> See also page 247.



(72.)

**M**ANDOLINO. In its old Italian leathern case. Inside the instrument is the inscription *Vincentius Vinaccio fecit Neapoli, Sito Nella Calata de Spitaletto A.D. 1785.*

(97.)

**M**ANDOLINO. *Italian.* About 1700. Rosewood inlaid with ivory, tortoise-shell, and mother-of-pearl. In front, a figure of Apollo under a canopy, and other embellishments in mother-of-pearl. Silver frets. An ornamented sound-hole covered with glass. A figure made of mother-of-pearl inlaid near the bridge contains the engraved initials *A.G.*, which may be those of the maker of the instrument, possibly Andreas Guarnerius. This fine mandoline is of the scarce kind called "Milanese Mandoline," and also "Mandurina." It has twelve wire strings, which are arranged in pairs and produce six tones; while the more common Neapolitan mandoline has eight strings, constituting four pairs.

(44.)

**M**ANDOLA. *Italian.* Made by Gio. Battista at Naples, in 1701. L. 2 ft. 11 in., depth of body, 10 in. Sixteen strings arranged in eight pairs, or unisons.

The *mandola*, which is much scarcer than the *mandolino*, is also called *mandura* or *mandora*, and about three centuries ago was also made of a smaller size and with fewer strings. Like the *mandolino* it was played with a plectrum. In fact, the *mandola* is exactly like the *mandolino* in shape, but of the size of a large lute. The purpose of the little plate of tortoiseshell, or some other suitable substance, placed on the sound-board beneath the strings between the sound-board and the bridge, is to prevent the sound-board being scratched by the plectrum. The tone of the *mandola* here exhibited is very fine, and may well cause the musician to regret that the instrument has fallen into disuse.

VIOLS, VIOLINS, AND OTHER INSTRUMENTS PLAYED WITH  
A BOW.

(116.)

**V**IOLA-DA-GAMBA. *English.* 17th century. Carved head. Six-stringed. Inside is the inscription, *Richard Meares, without Bishopsgate, near to Sir Paul Pinders, London, Fecit 1677.*

(45.)

**V**IOLA-DA-GAMBA. Inlaid with mythological representations and other ornamentation in ivory, mother-of-pearl, tortoise-shell, &c. Made about the year 1580, probably in Hamburg.

The substitution of a machine for the original tuning-pegs is modern; otherwise the instrument is in its original condition. There could be no difficulty in restoring the tuning-pegs, which probably were of ivory, perhaps ornamented at the top, with a small jewel corresponding with those still to be seen on the neck.

Before this instrument came into the present collection it was in the possession of Mr. Simon Andrew Forster. In the work entitled 'The History of the Violin and other Instruments played on with the Bow,' by W. Sandys and S. A. Forster, London, 1864, there will be found two representations of this instrument, with some information respecting its history. Having mentioned Corelli's violin, made in the year 1578, and the celebrated violin which Queen Elizabeth gave to the Earl of Leicester, the writers proceed as follows:—"One of the writers of this work has in his possession a very handsome viol-da-gamba of about this date, richly inlaid and ornamented, purchased from the late Mr. John Cawfe, the artist, but we have been unable to ascertain the previous owners. The body is about the size of a modern violoncello, and it has frets. It is altogether so fine a specimen of this class of instruments that we have had photographs, from which our illustrations are taken. When the lamented Prince Consort, on the 16th of April 1845,

being the director for the evening of the Ancient Concert, had some music of the sixteenth century performed on instruments of that period, some of which were sent over by M. Fétis from Brussels for the purpose, Mr. Cawse lent this viol-da-gamba, which was played on by Mr. Richard Hatton. In the course of the evening he was desired to attend and show the instrument to the Queen, who examined it carefully, and expressed herself much pleased with it."

This instrument was probably made by Tielke in Hamburg. There are two instruments of the guitar kind made by Joachim Tielke, which were highly ornamented with mythological figures and precious stones, almost exactly like the present viola da gamba; one of these instruments dated, according to an engraved inscription, from the middle of the sixteenth century, and the other dated more than a century later. The Tielke family was very celebrated, and we find in old German books glowing accounts of their magnificent lutes ornamented with elaborate designs in silver, gold, and jewels. It appears, therefore, probable, that the name of Joachim Tielke was kept up through several generations, just as is now done by musical instrument makers who have obtained a high reputation; and thus the apparent discrepancy in the dates of Joachim Tielke's works, above noticed, may perhaps be satisfactorily accounted for.

Attention must also be drawn to the old viola da gamba bow, placed near this instrument. Such a bow is now extremely scarce; but it may be known to musical inquirers from representations in some old pictures. It was held in a peculiar manner, as may be seen in the illustration, Fig. 103, copied from 'The Division Viol,' by Christopher Simpson, London, 1667, which nearly corresponds with the rule given by John Playford in his 'Brief Introduction to the Art of Descant,' London, 1683:—"Hold the bow betwixt the ends of your thumb and forefinger, an inch below the nut, the thumb and forefinger resting on the wood, the ends of your second and third fingers staid upon the hair, by which you may poise and keep up your bow. Your bow being thus fixed, you must draw it over one string, and then another, in a right angle, about two or three inches above the bridge, making each several string yield a clear sound without touching the other."

As to tuning, Playford gives the following singular rule:—"When you begin to tune, raise your *treble* or smallest string as high as conveniently it will bear without breaking. Then stop only your *second* or *small mean* in *F*, and tune it till it agree in unison with your *treble* open. That done, stop your *third* in *F*, and make it agree with your *second* open. Then stop your *fourth* in *E*, and make it agree with your *third*



open. Then stop your *fifth* in *F*, and make it agree with your *fourth* open. And lastly, stop your *sixth* in *F*, and make it agree with your *fifth* open. This being exactly done, you will find your viol in tune according to the rule of the *Gam-ut*.”

(46.)

**S**EVEN-STRINGED Viola da Gamba. *Italian*. Second half of the 17th century.

The oldest viola da gambas had generally six strings, and were provided with frets.

The innovation of using seven strings came into vogue through the French musician Marais. When the violoncello began to supplant the viola da gamba, in the eighteenth century, many a fine-toned gamba was transformed into a violoncello by an alteration of the finger-board and the adoption of four strings.

(148.)

**T**ENOR-VIOL. *English*. 17th century.

The *tenor-viol*, a small viola da gamba, has six strings, which are tuned a fourth higher than those of the *bass-viol*, or the larger kind of viola da gamba. John Playford, in ‘A Brief Introduction to the Art of Descant,’ London, 1683, remarks, “The tenor-viol is an excellent inward part, and much used in consort, especially in Fantasies and Ayres of 3, 4, 5, and 6 parts.”

(140.)

**C**OUNTER-TENOR-VIOL. *English*. 17th century. Inside is the inscription, *Henry Jay, in Southwarke, 1667*. Finely carved scroll. The belly has, besides the usual two found-holes, an oval hole in the middle, with an ornamental rose. Six-stringed. Catgut frets. It was probably tuned a

fifth higher than the viola da gamba. The back of the body has a peculiar curve towards the end. Probably the instrument was intended to rest on the shoulder when played.

(119.)

**TREBLE-VIOL.** *English.* About 1700. Carved head. Six strings. Catgut frets. It was tuned an octave higher than the viola da gamba.

(77.)

**VIOLA d'Amore.** *Italian.* 17th century. Old-fashioned shape. Seven catgut strings; underneath them seven strings of thin steel wire.

Meyerbeer, Berlioz, and some other composers of the present century, have endeavoured to revive the use of this instrument in the orchestra on account of the sweetness of its tone. The seven wire strings placed underneath the catgut strings are tuned in unison or in octaves with the latter, to increase the sonorousness by slightly vibrating when the bow is drawn over the catgut strings. The "sympathetic strings," as they are called, should be of very thin steel wire. It is now almost impossible to procure such thin steel strings as were formerly used on this instrument, as well as on the cither or pandore, and as are still used by the Hindus on their *tamboura*. When the King of Oude visited London, he could not find steel wire thin enough to replace the broken strings of his *tamboura*.

The *viola d'amore* is usually tuned in the following intervals:—



But it was formerly the custom to adopt occasionally another series of intervals, in accordance with the major or minor key in which the composition, wherein the viola d'amore had to take part, was written.

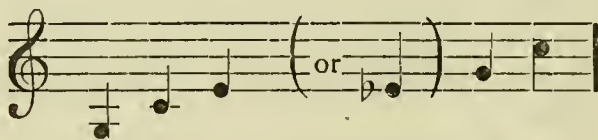
Burney ('History of Music,' vol. iv. p. 257), in recording that Attilio Ariosti—or "Padre Attilio," as he was usually called—played the *viola d'amore* in London in the year 1716 between the acts of an opera,

remarks: "This was the first time that such an instrument had been heard in England." From this statement it would appear that the *viola d'amore* had, about the year 1700, fallen so entirely into oblivion in England that foreigners could introduce it as a new instrument. John Playford describes its construction in his 'Musick's Recreation on the Viol Lyra-way,' London, 1661.

(157.)

**V**IOLA d'Amore. Strung entirely with wire. A curiously constructed head with a carved female bust. Probably *English*. 17th century.

The *viola d'amore* strung entirely with wire appears to have been a novelty to Evelyn, for he records in his Diary of November 20, 1679, "I dined with Mr. Slingsby, Master of the Mint, with my wife, invited to hear music, which was exquisitely performed by four of the most renowned masters: Du Prue, a Frenchman, on the lute; Signor Bartholomeo, an Italian, on the harpsichord; Nicholao, on the violin; but above all, for its sweetness and novelty, the *viol d'amore* of five wire strings played on with a bow, being but an ordinary violin played on lyre-way by a German." Mattheson ('Das Neu-Eröffnete Orchestre,' Hamburg, 1713) describes the *viola d'amore* as being mounted with four wire strings, and with one catgut string for the highest tone. He says that it was usually tuned according to the common chord of C-major or C-minor, thus:—



Mattheson praises its sweetness of sound, but does not mention the sympathetic strings. The transformation of the wire-strung *viola d'amore* into the so-called psaltery or sultana, which has no sympathetic strings, is indicated in the following statement by Sir John Graham Dalyell ('Musical Memoirs of Scotland,' Edinburgh, 1849), "The instrument was first introduced in public in London during the year 1715, when it was heard between the acts of an opera. It was known in Scotland in the middle of the century, and a taste for it was probably encouraged by the performance of Passerini, an Italian resident in Edinburgh, in the year 1752, when it was said to be a new instrument called



*viola d'amour*. Passerini was manager of the Gentleman's and St. Cecilia Concert, where he and his wife had a permanent engagement as skilled musicians. He played solos and accompanied singing with the instrument. Perhaps the *viola d'amour* underwent several modifications, as its name was changed to *psaltery*, in the belief of its being the ancient instrument so denominated, which is quite different according to most authorities, not belonging to the fiducial tribe. In 1754 a concert for the new instrument called the *psaltery* was announced for Signor Carusi's benefit concert in Edinburgh, and performed by Pasquali, another Italian musician, also resident there. From its soft and simple nature it was eulogised in 1762 as unequalled for delicacy and sweetness. I knew a lady many years ago in Edinburgh who played melodies with great delicacy on this instrument, which was strung with wire, and had frets on the finger-board." From these accounts it would appear that the *viola d'amore* strung entirely with wire was not much used in England before the year 1700, although it evidently existed in this country in the seventeenth century.

(48.)

**S**ORDINO. The body of tortoise-shell. With a carved head of wood and ivory. *Italian*. About 1600. Length of the entire instrument, 14 in.

About three hundred years ago the *sordino* was kept by gentlemen in a little case resembling a pen case, which they put in the pocket when they went to a singing party; and they used the instrument for insuring correct intonation while singing madrigals and catches. Kircher, in his 'Mufurgia Universalis,' Romæ, 1650, calls it *linterculus*, no doubt from its resemblance to a small boat.

(50.)

**V**IOLETTA Piccola. The smallest kind of the old viol instruments, shaped with a flanging neck like the *viola da gamba*, or bass viol. This small species of treble viol was called by the French *Haute-contre*. *Italian*. 17th century.

(51.)

**F**IVE-STRINGED Viol. Called by the French *Quinton*. Labeled inside with the inscription, *Antonius Gragnani fecit, Anno 1741. Italian.* 18th century. With it is placed a fluted bow made by Betts in the 18th century.

Betts and Dodd are the English makers whose bows are held in the highest esteem.

(52.)

**S**IX-STRINGED Viol. Called by the French *Par-dessus*. *French.* 17th century.

With this instrument is placed an old-fashioned bow of the kind known in England as the *Corelli-bow*. It has no screw for tightening or slackening the hair, and is altogether different in shape from our present violin bow.

(53.)

**V**IOLIN. The work, if we may rely on the label inside, of Gaspar di Salo, the celebrated Italian maker, whose instruments date from about 1560 to 1610.

Varnish and colour are nearly gone, but the tone of this instrument is far better than its appearance indicates.

(54.)

**V**IOLIN. Oblong. *English.* Beginning of the 18th century.

A curiosity in its way, and worthy of examination, if only as an evidence that the usual form of the violin is the best hitherto discovered for the acoustic perfection of the instrument.

(55.)

**V**IOLIN. *German.* 16th century.

A very old-fashioned shape of the instruments of the viol class.

(56.)

**S**ULTANA (or Pfaltery, Cither-Viol.) Played with a bow, like the violin. *Irish.* Made by Thomas Perry, Dublin, 1767.

Perry made larger instruments of this kind, mounted with pairs of wire strings, like the old English cittern.

The idea of using the bow with instruments of the cither kind is old; it has been taken up again recently in Germany, as is exemplified by the *streichzither*, a modern instrument from Bavaria, previously described. (See p. 259.)

(57.)

**N**AIL-VIOLIN. The first instrument of this description was invented by a German musician, Johann Wilde, living in St. Petersburg about the year 1740.

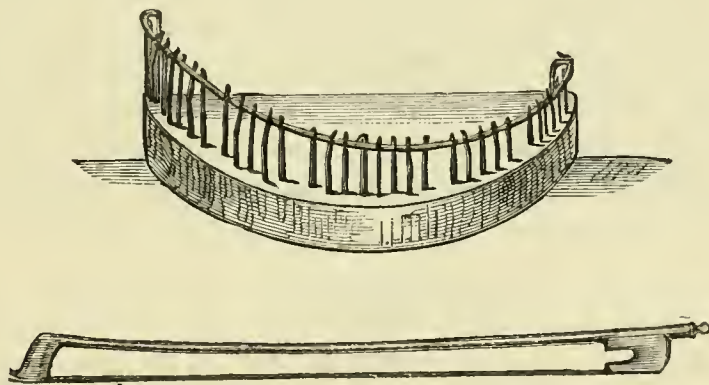


Fig. 142.—NAIL VIOLIN.

One evening, after returning home from a concert, Wilde, in hanging his violin bow on a nail, accidentally produced a tone by



drawing the hair of the bow over the metal, whereupon he conceived the idea of constructing a musical instrument of nails. And that he has succeeded in producing a fine-toned, if not a practically recommendable instrument, will probably be granted by all who draw the large black-haired bow over the iron pins. The bow is best made with black hair, for white hair is softer, and does not "bite" so well for such an iron fiddle. It must also be plentifully supplied with resin to make it bite well. The performer holds the instrument in his left hand, placing his fingers in the hole beneath.

Probably, owing to the quality of its sound, the *nail-violin* is also called *nail harmonica* (German, *Nagel-harmonika*). Several attempts have been made in Germany further to perfect it.

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DULCIMERS, ORGAN-HURDYGURDY, &c.

(58.)

**D**ULCIMER. With movable bridges like the dulcimer (*Santir*) of Eastern nations. *English*. Made, according to an inscription inside, at Old Weston, Huntingdonshire, in 1846.

Modern as this specimen is, it is of the old stamp, and may be regarded as a faithful representation of the dulcimer mentioned in the English translation of the Bible. It need hardly be added that the translators of the Bible, unacquainted with the musical instruments mentioned in the original text, adopted for them the names of those in use in their day which appeared to them to correspond most nearly with those of the Hebrews and Greeks. The dulcimer has evidently not undergone any material alteration since the time of the translation of the Scriptures.

(59.)

**S**ALTERIO. *Italian*. Made by Antonio Bertifecce at Florence, in the year 1745.

It may be found interesting to compare this Italian dulcimer with the English one just noticed, and with the Chinese *yang-kin* described on page 312.

(169.)

**O**RGAN-HURDYGURDY. (French, *vielle organisée*.)  
*English.* About 1750.

This instrument was made by a Frenchman living in London. Some portions of it have been restored in the present century. In England the *vielle organisée* was also called, rather inappropriately, "flute-cimbal." The organ portion has two stops, and can be disengaged from the hurdygurdy, so that either may be played separately or both together.

(104.)

**M**ONOCORD for tuning the Harpsichord. *English.*  
 18th century. With a label bearing the inscription,  
*Longman and Broderip's Patent Tuning Machine.*

A similar contrivance was patented in England by Wardhaugh Thompson in the year 1787. The mechanism is contained in an oblong-square wooden box, in which a wire string is stretched from end to end, and supported at two points by bridges. The string rests on a movable jack intermediate between the two bridges. A slider moves by the action of a rack and pinion, worked by a winch along a brass frame at the bottom of the box. A "brass chop," acted on by a spring above it, presses the string down on a bridge or cross pillar, and thus defines its length. A scale and an index are attached to the box. The directions given for tuning the harpsichord, spinet, &c., are as follows: "Put the string of the machine to concert pitch by a C tuning fork, placing the slide so as to give the string its full length, after which tune the lowest note of the following scale in unison with it, and proceed by transferring the slider in its natural progression from space to space, tuning each interval agreeable to the notes, or tones, marked thereon to the end of the scale, after which tune the octaves ascending from C to the highest note, and then by octaves descending from B to the lowest note."

A few words are here added to plead for the protection of such antiquated musical instruments as may have escaped destruction, from careless exposure to dust and damp, or other causes of injury. It is surprising how soon musical instruments become scarce when they are no longer in popular demand. How seldom is a harpsichord now seen ! Yet it was still in favour as recently as at the beginning of the present century. Wind instruments are, on the whole, more durable than stringed instruments ; and searches in likely places might perhaps lead to the recovery of some interesting specimens of the *fackbut*, *shalm*, *recorder*, and suchlike trumpets and pipes mentioned by Shakespeare and other writers, but now to most people known by name only. Perhaps some well-preserved relics of this kind may still be stowed away in the lumber rooms of old mansions ; and this hint may possibly have the effect of rescuing a few from oblivion. Are there not in some of the cathedrals store rooms containing relics of articles which were used in religious performances before the time of the Reformation ? Surely, some such objects must have escaped demolition by religious enthusiasts. Among these relics may possibly be found the *regals*, a portable organ which was used by the Roman Catholics in their processions. Howbeit, the careful preservation of any musical antiquities cannot but be advocated by everyone interested in the history of the art of music.

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## APPENDIX No. 2.

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### *SOME ACCOUNT OF THE SPECIAL EXHIBITION OF ANCIENT MUSICAL INSTRUMENTS IN THE SOUTH KENSINGTON MUSEUM, ANNO 1872.*



IN the month of August 1871 it was decided by the Right Honourable the Lords of the Committee of Her Majesty's Most Honourable Privy Council on Education, assembled at the South Kensington Museum, that an Exhibition of Musical Instruments made before the year 1800, together with drawings and casts of ancient instruments, should be opened in the month of June 1872.

The design owed its origin, in some measure, to the arrangement adopted for the London International Exhibition of the year 1872. It must be remembered that in the series of London International Exhibitions which commenced in 1871, there are certain manufactures assigned to each year's exhibition. In the year 1872 modern musical instruments, exemplifying their latest improvements, constituted one of the specialities.

The Committee for promoting the Special Exhibition of Ancient Musical Instruments consisted of—H.R.H. the Duke of Edinburgh, K.G. ; the Duke of Leinster ; the Marquess of Exeter ; the Marquess of Westminster, K.G. ; the Earl of Warwick ; the Earl of Wilton ; the Lord Gerald Fitzgerald ; the Hon. Seymour Egerton ; the Right Hon. Sir John Pakington, Bart., M.P., G.C.B. ; the Rev. Sir Frederic G. Ouseley, Bart. ; Sir Coutts Lindsay, Bart. ; Sir John Harington, Bart. ; Sir Robert Stewart, Bart. ; Sir M. D. Wyatt ; Sir Julius Benedict ; Sir George Elvey ; Sir Sterndale Bennett ; Sir John

Gofs ; Mr. Francesco Berger ; Mr. W. T. Best ; Mr. W. Broadwood ; Mr. A. Chappell ; Mr. Cheyne ; Mr. Cole, C.B. ; Mr. W. G. Cufins ; Professor J. Ella ; Mr. Carl Engel ; Mr. G. Grove ; Mr. John Hullah ; Mr. Henry Leslie ; Dr. Charles Maclean ; Professor Oakeley ; Mr. P. Cunliffe Owen ; Mr. J. F. Puttick ; Mr. Redgrave, R.A. ; Dr. Rimbault ; Mr. A. Sullivan ; Mr. R. Thompson ; Mr. G. F. Watts, R.A. ; M. Ambroise Thomas, Director of the Conservatoire at Paris ; M. G. Berger ; M. Gallay ; M. Lecomte ; M. Vuillaume ; Signor G. Gaspari, of the Conservatoire at Bologna ; Mr. Alan Cole, *Secretary*.

The Executive Committee appointed consisted of—H.R.H. the Duke of Edinburgh ; the Lord Gerald Fitzgerald ; Mr. Henry Leslie ; Mr. Philip Cunliffe Owen ; and Mr. Alan Cole, *Secretary*. A French sub-committee was appointed in Paris, consisting of M. Gallay, M. Georges Berger, M. Lecomte, who acted as *Secretary*, and M. Vuillaume, who was invited to superintend the arrangement of the Italian stringed instruments.

The project was readily taken up by private collectors, as might be expected, not only in England, but also on the continent. Moreover, the South Kensington Museum had in its permanent collection an excellent nucleus for the foundation of the Special Exhibition. The number of exhibitors amounted to about one hundred and thirty.

A catalogue was prepared. It contains an Introduction in which an account is given of the principal collections of musical instruments which have been formed in different countries. Some inaccuracies in the catalogue, owing to the necessity of its being in print before the opening of the Exhibition, when not all the instruments described had arrived, have been rectified in a revised edition, of which a number of copies were printed for distribution among the lenders. This edition contains photographs of interesting instruments which were exhibited.

After the labours of the Committee had resulted in the formation of a remarkable collection, the Exhibition was opened on Saturday June 1, and continued open until the end of September. A collection of musical antiquities so comprehensive and valuable had probably never before been brought together under one roof. It is, however, unnecessary to expatiate on this question, since the reader may judge of the extent of the collection from the following survey.

It contained upwards of five hundred instruments, arranged in eight classes, viz. :—

- Class 1. Stringed instruments provided with a key-board.
- Class 2. Stringed instruments played with a bow.
- Class 3. Harps, lutes, guitars, cithers, dulcimers, &c.

- Class 4. Trumpets, horns, and similar wind instruments.  
 Class 5. Flutes, oboes, and similar wind instruments.  
 Class 6. Organs, and other instruments containing organ pipes or tongues of metal.  
 Class 7. Miscellaneous instruments.  
 Class 8. Ethnological section.

As these classes are examined separately in the following pages, it would be superfluous to give here any explanation of the arrangement adopted in the catalogue.

## CLASS I.

### STRINGED INSTRUMENTS PROVIDED WITH A KEY-BOARD.

The instruments with a key-board here gathered together, amounting to above forty in number, consisted chiefly of such as have their strings made to vibrate by means of quills, or similar contrivances, which serve as *pleetra*. Of this construction, and therefore of the same family, although widely different from each other in outward appearance as well as in certain points of mechanism, are the spinet, the virginal, and the harpsichord (Italian, *clavicembalo*; French, *clavecin*; German, *clavicymbel* or *flügel*).

The small Italian spinet of the 16th century was represented by some very interesting specimens. These spinets, in shape not unlike the dulcimer, are open at the top and have no stand. Probably they were originally kept in a case, as was also the *salterio* or Italian dulcimer. When wanted for use, the instrument was taken out of its case and placed upon a table.

There were exhibited some English *virginals* of the usual oblong-square shape. One of these bears the inscription *Joseph Loofemore fecit 1655*. Another, lent by Mr. H. Gill of Nottingham, was made by Thomas White in the year 1653, and is decorated with Jacobin ornaments in relief, and with a rudely-painted representation of Orpheus on the folding lid.

Mr. C. M. Holdich, Islington, exhibited a virginal, probably English, which bears the inscription *Lodovicus Groenvelus me fecit 1600*. The lid is painted with biblical subjects.

Although in England the name Virginal was given principally to the oblong-square spinet, it would appear that any small spinet intended for ladies was thus designated. Queen Elizabeth's virginal, exhibited by Mr. Charles Gresley, The Close, Lichfield, rather resembles in shape the



Italian spinets of the 16th century by Annibal dei Roffi, and Marcus. Its case, made of cedar, is covered with crimson Genoa velvet, upon which are three ancient gilt locks finely engraved. The inside of the case is lined with strong yellow tabby silk. The whole is in a high state of preservation, light and portable, being five feet long, sixteen inches wide, and seven inches deep. The front is covered entirely with gold, having a border round the inside two inches and a half broad. There are fifty keys with jacks and quills; thirty of them are of ebony tipped with gold, and the semitone-keys (twenty in number) are inlaid with silver, ivory, and different kinds of wood, each key consisting of about 250 pieces. The royal arms of Queen Elizabeth at one end are most exquisitely emblazoned; at the other end is a dove, rising luna-crowned, holding in its right foot a sceptre, and standing upon an oak tree cooped and eradicated. The painting is done upon gold with carmine-lake and ultramarine, and the ornaments are minutely engraven upon gold, which gives the instrument a very beautiful appearance. This virginal was purchased at Dudley in Worcestershire about the year 1840, by the late Rev. J. M. Gresley, from a person who said that it came from Fisherwick. According to an account in the Gentleman's Magazine of 1815, it formerly belonged to Lord Chichester, at whose sale, at Fisherwick, it was bought in the year 1803, by Mr. Jonas Child, a painter at Dudley.

There are, it is said, several virginals once belonging to Queen Elizabeth still extant in different parts of England. Queen Elizabeth was notoriously fond of music, and nothing is more likely than that some of her musical instruments have been carefully preserved, although their history may not be exactly traceable.

A miniature spinet, or virginal, lent by M. César Snoeck, bears the inscription, "Paulus Steiniche me fecit, Anno 1657." It resembles the *ottavino*, of which also some specimens were exhibited.

The larger instrument of the kind under consideration, which in England was known by the name of spinet, somewhat resembles the harpsichord in shape, and has a stand. The Exhibition contained some specimens, which had been restored to a playable condition. The spinet of this odd-looking shape, oblique at one side, was also in use on the continent, whence it may have been originally introduced into England, since many of the English harpsichord makers were foreigners.

Messrs. Kirkman exhibited an English spinet, made by Pleyer, about 1710 to 1720. It has a compass of  $4\frac{1}{4}$  octaves; its lower keys are black, and the others are white. Strange enough, the last two upper-

keys in the bass are divided so as to produce demi-fermitones, or quarter-tones.

Sir Sterndale Bennett lent an English spinet of the 17th century, made by Thomas Hitchcock. It has been carefully restored.

A French *épinette*, probably made in the beginning of the 18th century, displayed in its outward appearance much more elegance and embellishment than the English spinets, its decoration being in vermilion, blue, and gold, with raised Japanese figures.

Of the *clavicytherium*, or the upright spinet (French, *clavecin vertical*) there was only one specimen, exhibited by M. Laconi of Paris. Its case, ornamented with paintings of Orpheus, &c., rested vertically on a gilt stand. This kind of spinet appears to have been formerly known also in England. In the Inventory of King Henry VIII.'s musical instruments we find mentioned "A pair of new long Virginalls made harp-fashion, of Cipres, with keys of ivory, having the King's arms crowned and supported by his Grace's beastes within a garter gilt, standing over the keys;" this was probably a *clavicytherium*. The instrument had originally a stop, or register, which would cause the strings to be twanged by small brass hooks, whereby a quality of sound was produced resembling that of the harp; hence the name "*arpichord*," by which Prætorius in his '*Syntagma Musicum*,' &c., Wolfenbüttel, 1619, describes the *clavicytherium*.

It must be remembered that about three centuries ago the various spinets, more or less differing from each other in shape, and also in the position of the strings,—some kinds having the strings running across, and others obliquely,—were distinguished by names which were not always strictly adhered to. During the 16th century the common spinet was called in Germany *symphonia*,—a name which was formerly applied also to other musical instruments, and which evidently was used much in the same sense as the Greeks used the word *organon*. Again, during the 17th and 18th centuries, the spinet was called in Germany simply *Das Instrument*, and the same name was afterwards used to designate the square pianoforte. The German *clavicymbalum*, also called *gravicymbalum*, had the shape of a grand-piano, and was provided with two or more strings for each tone. It was, in fact, the harpsichord of the English, and the *clavecin* of the French.

There were some fine specimens of the continental harpsichord in the Exhibition, among which are deserving of special mention:—

A *clavicembalo* of the 17th century, lent by Le Comte de Sartiges. To this gorgeous instrument, which is said to have belonged to Donna

Olympia Maïdachini Pamphyli, sister-in-law of Pope Innocent X., are attached several large figures, carved in wood and gilt, which represent allegorically the power of music.

A *clavicembalo* of the 17th century, said to have belonged to Queen Christina of Sweden. Ornamentation of bronze gilt on a red ground.

A French *clavecin* with double row of keys, dated 1612, and further inscribed "Mis à ravellement par Pascal Taskin à Paris 1774." It is painted with scenes of the period of Louis XIV., by Vander Meulen, and is said to have formerly belonged to Marie Antoinette. Lent by Viscount Powerscourt.

A *clavecin*, made in the year 1779 by Sébastien Erard in Paris, the founder of the great pianoforte manufactory, who came from Straßburg. This neatly-made harpsichord, which, we are told, "created sensation in Paris," has four rows of jacks, three of which are with crowquills and one is with buff leather. Lent by Madame Erard.

Two harpsichords made by Andreas Ruckers at Antwerp, dating from the years 1639 and 1651, require to be mentioned here as interesting specimens of workmanship of the most celebrated harpsichord maker of the 17th century; but as they belong to the Museum, the reader may be referred to the description of them in the Catalogue.

The Exhibition contained two large English harpsichords of Kirkman's manufacture, which have been restored to their original playable condition. One of them bears the inscription, "Jacobus Kirkman, London, 1772;" and the other, "Josephus Kirkman, London, 1798." They are specimens of the so-called double-harpsichord, or full grand harpsichord, with two key-boards, six stops, and two pedals. One of them is provided with a Venetian swell, which by means of one of the pedals will open and close like the swell of an organ. In the year 1769 Burkat Shudi (Burkhardt Tschudi) took out a patent in London for a kind of Venetian swell, by which the loudness of the harpsichord could be regulated at pleasure. This was, however, hardly to be regarded as a new invention, since a similar contrivance was common enough on the organ, and the continental organs not unfrequently had a so-called Echo, or pipes placed in a box, which the player could open or close at will.

As the directions for using the stops and pedals of the English double-harpsichord afford an insight into the capabilities of the instrument, they may find a place here:—

*First Unison*—Pull out first stop on right hand. This stop acts on both rows of keys. *Second Unison*—Push in second stop on right hand. This stop acts on the lower row of keys only. *Octave Stop*—Push in



first stop on left hand. This stop acts on the lower row of keys only. *Lute Stop*—Push in second stop on left hand. This stop acts on the upper row of keys only. *Buff Stop*—Push in third stop on left hand. This stop acts on lute stop and first unison. *Left Pedal Stop*—Push forward single stop on left hand. This stop will put on the octave stop and the first unison stop. *Left Pedal*—Will take off the octave stop and the first unison stop, and will put on the lute stop. *Right Pedal*—Works Venetian swell. *To obtain Half Power*—Pull out the first unison stop, and push in the octave stop. *To obtain Full Power*—Pull out the first unison stop, and push in the second unison stop and the octave stop.

By means of the various combinations of stops and pedals above twenty different modifications of sound are obtainable. The strings are remarkably thin compared with those used at the present day on the pianoforte, which commences in the treble with strings of about the thickness with which the harpsichord finishes in the bass.

The following are the numbers of the gauge of the strings required. It will be observed that the lowest *f-sharp* is omitted on the instrument.

## Unison Stops and Lute Stop.

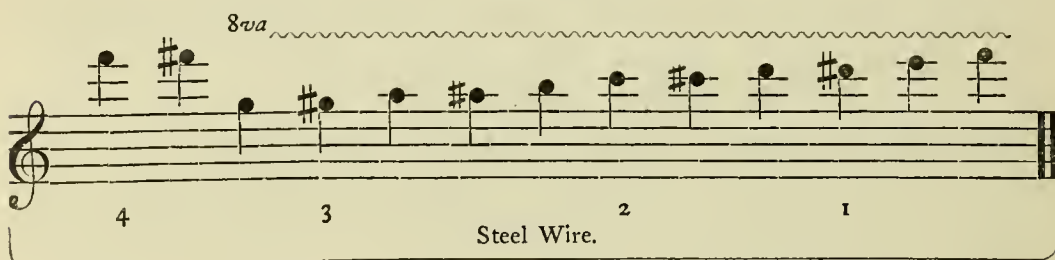
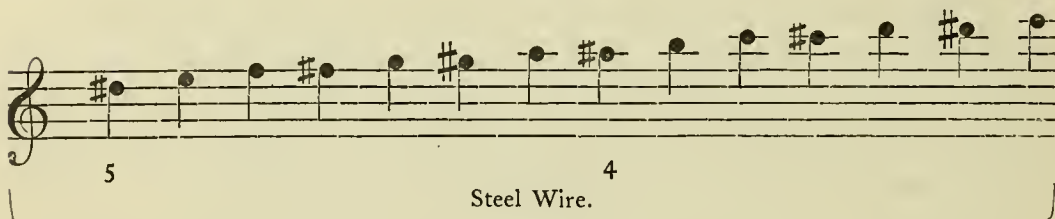
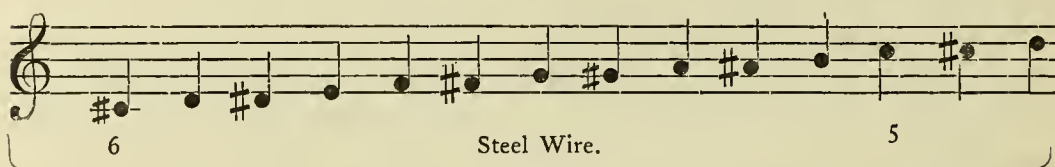
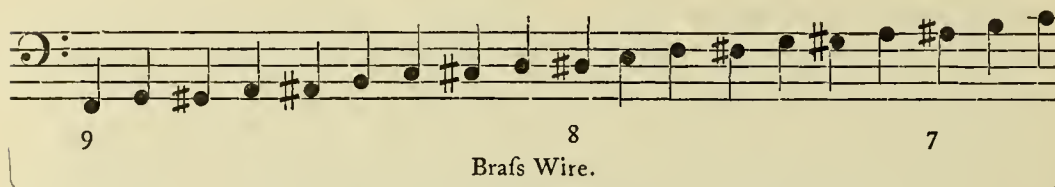
Musical staff showing notes for Brafs Wire. The notes are: G<sub>2</sub> (13), A<sub>2</sub> (12), B<sub>2</sub> (11), C<sub>3</sub> (10), D<sub>3</sub> (9), E<sub>3</sub> (8). The gauge numbers 13, 12, 11, 10, 9, and 8 are written below the notes. The label "Brafs Wire." is centered below the staff.

Musical staff showing notes for Steel Wire. The notes are: F<sub>3</sub> (8), G<sub>3</sub> (7), A<sub>3</sub> (6), B<sub>3</sub>, C<sub>4</sub>, D<sub>4</sub>, E<sub>4</sub>, F<sub>4</sub>, G<sub>4</sub>, A<sub>4</sub>, B<sub>4</sub>. The gauge numbers 8, 7, and 6 are written below the notes. The label "Steel Wire." is centered below the staff.

Musical staff showing notes for Steel Wire. The notes are: C<sub>4</sub> (6), D<sub>4</sub>, E<sub>4</sub>, F<sub>4</sub>, G<sub>4</sub>, A<sub>4</sub>, B<sub>4</sub>, C<sub>5</sub>, D<sub>5</sub>, E<sub>5</sub>, F<sub>5</sub>, G<sub>5</sub>, A<sub>5</sub>, B<sub>5</sub>. The gauge number 6 is written below the first note. The label "Steel Wire." is centered below the staff.

Musical staff showing notes for Steel Wire. The notes are: G<sub>4</sub> (5), A<sub>4</sub> (4), B<sub>4</sub>, C<sub>5</sub> (3), D<sub>5</sub> (2), E<sub>5</sub>, F<sub>5</sub>, G<sub>5</sub>, A<sub>5</sub>, B<sub>5</sub>. The gauge numbers 5, 4, 3, and 2 are written below the notes. The label "Steel Wire." is centered below the staff.

## Octave Stop.



A remarkably fine-toned English harpsichord, still in a playable condition, may be mentioned here. It has two rows of keys. Over the higher keyboard is the inscription *Jacobus et Abraham Kirkman, fecerunt 1773*. It has six stops and two pedals. The cover of the case is divided into two parts, one of which can be raised by means of the pedal for the right foot; thus the *crescendo* and *decrescendo* are produced. Only the lute stop has crowquills; the other stops have small pieces of prepared leather. The substitution of leather for quills causes the sound more to resemble that of the pianoforte, and produces a pleasant contrast when the lute stop with its crowquills is used alternately with the other stops. The variety of colour of sound obtainable by the combination of different stops is very effective. This instrument exhibits probably the highest degree of perfection ever attained in the construction of the harpsichord, although it was not until the beginning of the present century that the manufacture of harpsichords was entirely discontinued in England.

J. Peter Milchmayer, in Mayence, constructed about the year 1780 a harpsichord with three key-boards, on which, it is recorded, 250

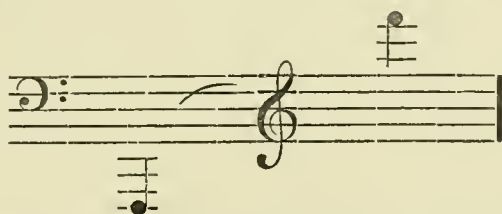
changes of sound could be produced ; but this contrivance appears to have proved of as little practical value for musical performances as the *Archicembalo*, with quarter-tones invented in the sixteenth century by Nicola Vicentino ; or the complicated *Clavicymbalum perfectum*, which Prætorius saw in the beginning of the seventeenth century at Prague.

There were only two *clavichords* in the Exhibition. Of one of these, lent by the Rev. C. B. Riddell, Harrietsham Rectory, Maidstone, it is said “ that it belonged to Handel, and that it was used by him for composing on journeys.” It dates from the year 1726, and was probably made in Germany. It measures only thirty-two inches in length and ten inches in width ; it has no stand, and was evidently intended to be placed on a table or on the lap when it was to be played upon. The other clavichord, a much larger instrument, was made towards the end of the last century in Einbeck, a small town near Hanover ; it has two strings for each tone.

The *clavichord* and the *hurdy-gurdy* are, it would appear, the oldest stringed instruments with keys. The *clavichord* was, about a thousand years ago, a *monochord* with some rude keys attached to *tangents*, which may be regarded as bridges or frets. By means of them it was possible to produce a series of tones on a single string, since the pitch of sound depended upon the distance of the place at which the tangent touched the string. Thus, as many tones were obtained from one string as there were tangents under that string,—almost precisely as is still the case with the *hurdy-gurdy*. In the beginning of the eighteenth century the *clavichord* was in Germany still often made with strings for the diatonic scale only, the chromatic tones being produced by additional tangents. At the time of Handel and J. S. Bach the compass of the *clavichord*, as well as of the *clavicembalo* in Germany, usually comprised only four octaves, thus :—



Not until towards the end of the eighteenth century was it extended to five octaves, thus :—



The clavichord is oblong-square in shape, as shown in the annexed engraving, Fig. 143, which represents a specimen, dating from the



eighteenth century, manufactured in Germany, where it is called *klavier*.

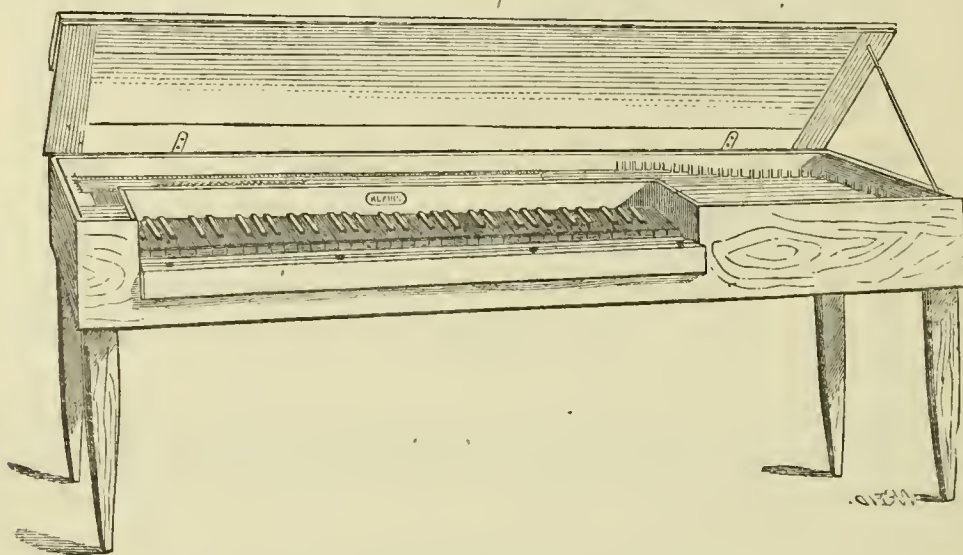


Fig. 143.—GERMAN CLAVICHORD.

The simple construction of the clavichord permits a delicacy of touch very agreeable to musicians who appreciate refinement of expression far more highly than brilliancy of tone. The very softness and unpretentiousness of its sound, combined with its remarkable power of expression, might well render the instrument useful to musicians even at the present day, notwithstanding the progress which has been made in many respects as regards other stringed instruments with keys. No wonder that at a time when the pianoforte was in its infancy, our great musical composers should have preferred in their studies the use of the clavichord to that of the harpsichord, on which modifications of expression are obtained not so much by the touch as by means of stops and pedals. It is well-known that J. S. Bach was especially fond of the clavichord, and Handel likewise appears to have considered it particularly suitable for practice, to lay a good foundation for the treatment of the harpsichord and organ. In the ‘Autobiography of Mrs. Delany,’ edited by Lady Llanover, we are told that Mr. Granville possessed a music book given to him by Handel, entitled ‘Krieger (Johann) Organisten und Chori Musici Directore in Zittau, Anmuthige Clavier-Uebung, Nürnberg, 1699,’ in which Mr. Granville, from conversation with Handel, has written the following memorandum: “The book is by one of the celebrated organ-players in Germany. Mr. Handel in his youth formed himself a good deal on his plan, and said that Krieger was one of the best writers of his time for the organ; and, to form a good player, but the clavichord must be made use of by beginners instead of organ or harpsichord.”

At any rate it cannot but be interesting to musicians to play on the clavichord the old precious *Suites* by Bach and other great masters as they were intended to be played.

Several expedients have been resorted to for the purpose of obtaining different qualities of sound on the clavichord. For instance, a so-called lute stop was contrived as follows:—The tangents, having been made of about twice the usual width, were covered one half of their width with cloth or leather, and the key-board was constructed so that it could be drawn slightly forward or pushed in by means of a stop. When the covered part of the tangent was caused to strike under the string the sound produced somewhat resembled that of the lute. Again, to increase the loudness and sonorousness of the clavichord, Gottfried Silbermann of Freiberg constructed, in the beginning of the eighteenth century, an instrument of this kind, in which the strings were of twice the usual length, and the tangents were placed in the middle, so that when a string was struck, two tones in unison were produced. Silbermann called his invention *Cembal d'Amour*,—a name hardly appropriate, since the mechanism did not resemble that of the clavicembalo, but was actually the same as that of the clavichord.

As regards the *Pianoforte*, it cannot be said that the old specimens which were in the Exhibition sufficed to illustrate its earlier history.

The invention of the pianoforte was formerly ascribed to Christoph Gottlieb Schröter, who, in the year 1721, presented to the King of Saxony a small model of such an instrument, which he is said to have invented in the year 1717. But the claim of Germany to having originated the pianoforte is contested by Italy, France, and England. In Italy, Bartolomeo Cristofali at Florence substituted, in the beginning of the eighteenth century, little hammers for the jacks and quills in the *clavicembalo*, an invention which he called *cembalo a martelletti*, and of which Scipione Maffei has given an account in 'Giornale dei Letterati d'Italia,' published at Venice in the year 1711. In France, Marius, a manufacturer of musical instruments in Paris, made (according to M. Fétis) in the year 1716, three models of a *clavecin à maillets*, in which the strings were vibrated by being struck with hammers. As regards the claim of England to be the country which produced the first pianoforte, a certain Father Wood, an English monk at Rome, is recorded to have possessed in the beginning of the eighteenth century a spinet constructed with hammers instead of quills; but as it is likewise recorded that he brought it to England from Italy, it probably was made after Bartolomeo Cristofali's device. It is, however, quite possible that the adoption of hammers suggested itself at the same time to different persons independently, when, in consequence of the progress which instrumental music

had made, the want of power of sound in the clavichord, and the inefficiency of the harpsichord for yielding *piano* and *forte* by the touch, became more generally felt.

Whatever may be thought of the apparently conflicting evidence recorded as to the real inventor of the pianoforte, thus much is certain: C. G. Schröter's model was adopted by his compatriot, the famous maker, Gottfried Silbermann, who improved upon it, and thus Schröter's model constituted the foundation of the mechanism which has been gradually more and more perfected in England and France as well as in Germany. Schröter states, in a published account of his invention, that the employment of hammers first suggested itself to him when witnessing Pantaleon Hebenstreit's wonderful execution on the dulcimer. This dulcimer was a superior instrument of its kind. Pantaleon Hebenstreit had it expressly constructed according to his plan. The common German dulcimer was at that time of a trapezium shape, about two feet in width in front and four feet in length; that of Pantaleon Hebenstreit was of double the size, and had two sound-boards opposite to each other, one of which was mounted with wire and the other with cutgut covered with wire. Having attained an astounding dexterity in performing upon his instrument, he went, in 1705, to Paris, and played before King Louis XIV. The King was so greatly pleased with the performance that he gave the instrument Hebenstreit's Christian name, *Pantaleon*; and by this name it became known in Germany. The fact that the pianoforte was also at first called *pantaleon*, or *pantalon*, corroborates the statement of Schröter that the application of hammers to the clavicembalo occurred to him when he heard Hebenstreit, hammering upon the *pantaleon*, produce charming effects by striking with different degrees of force.

Thus a second time the dulcimer served a speculative mind as a guide to the invention of a superior instrument with a key-board. The first instrument with a key-board derived from the dulcimer was the clavicembalo,—or a dulcimer (*cimbal*) with keys (*claves*) and *pleetra*.

A long time elapsed after the invention of the pianoforte before the instrument gained a footing in England. This is perhaps not surprising, considering the high degree of perfection which the harpsichord had attained. Besides, the favourite compositions written for the harpsichord were not exactly adapted for the new instrument. An old play-bill still extant, of the Theatre Royal in Covent Garden, announcing that on the 16th of May 1767, after the first act of the Beggar's Opera, "Miss Brickler will sing a favourite Song from 'Judith,' accompanied by Mr. Dibdin on a new instrument called Piano-Forte," clearly shows that in 1767 the pianoforte was still but little known in London. In fact, it was not until towards the end of the eighteenth century, when



Clementi, and other distinguished pianists and composers of music expressly calculated for the "new instrument," displayed its effects, that the pianoforte became an established favourite with the public.

The most noteworthy pianofortes in the Exhibition were the following:—

A small square pianoforte by Johannes Pohlman, London, 1767, lent by the Marquess of Exeter. This is one of the earliest specimens made in England. The composer Gluck had a pianoforte by J. Pohlman, dating from the year 1772, which he used in writing his opera 'Armida.'

A small square pianoforte by Zumpe and Mayer, London, 1776, lent by Mr. C. K. Salaman. The instrument has a lute stop and a vibration stop.

A small square pianoforte with the inscription *Meincke Meyer et Pieter Meyer fecerunt, Amsterdam*, but supposed to have been made by Longman and Broderip in London, towards the end of the eighteenth century. Longman and Broderip not unfrequently manufactured pianofortes by order of Dutch dealers, who removed the original slip of wood above the key-board containing the names of the makers, and replaced it by one bearing their own name.

Madame Erard of Paris exhibited an early French square pianoforte, which was made by Sébastien Erard for Queen Marie Antoinette.

Her Majesty Queen Victoria contributed a fine square pianoforte of the eighteenth century, and also a grand piano by Erard, which, though of modern construction, was interesting from an antiquarian point of view, on account of its decorations, the case being embellished with old French paintings on a ground of gold.

## CLASS II.

### STRINGED INSTRUMENTS PLAYED WITH A BOW.

This class comprised above 150 instruments, including the largest assemblage of specimens of the old Cremona masters which perhaps has ever been brought together.

The predecessors of our present instruments played with a bow,—the treble viol, viola da gamba, &c.,—were provided with frets on the finger-board, like the lute, and had generally six strings. The body was usually made slanting towards the neck, and the back was flat.

The boat-shaped form of the *fordino* resembles the ancient rebec. Some of the *fordini* exhibited were remarkably pretty, especially those

lent by M. Jubinal, of Paris, which are made of tortoise-shell and ivory, with a finely-carved head. These little instruments are kept in their old cases, somewhat resembling a pen-case, which are tastefully ornamented with *fleurs-de-lys*, &c.

Mr. J. Talbot, Cordier Hill, Guernsey, exhibited an Italian *fordino* made by Matthias Albanus, 1680. Another Italian *fordino* of the seventeenth century, lent by Mr. C. J. Read, Salisbury, measures only sixteen inches in length. The Italians used to call the *fordino* also *rebecchino*, and *violino picciola a la francese*. The last-named appellation rather indicates that the instrument was regarded in Italy as particularly national to the French. But, although it may have been introduced into Italy from France, it most likely was derived originally from the Moors in Spain. It is now also often called *pochette*, or *kit*; but these names more usually designate a diminutive violin, of which there were also some interesting specimens exhibited, as, for instance: *Pochette*, made by N. Remy, of Paris, eighteenth century, lent by Mr. C. J. Read; *Pochette*, ebony and ivory, with carved head, lent by M. Jubinal; *Kit*, lent by Mr. J. Gordon Smith; &c.

A curious specimen of a violin of an old type, not much larger than a *pochette*, was exhibited by Mr. George H. M. Muntz, Birchfield, Birmingham. The instrument may be considered as illustrating the transition of the rebec into the violin. It was made by Pietro Zanure in Brescia in the year 1509. Its sides are slightly incurved, and it is mounted with four strings; but it has only a single sound-hole, which is of a circular form, and is placed in the centre, as on the lute or guitar. It has a sound-post, but no bass-bar, and its tone is described by its owner as resembling that of the oboe. A rather unsightly adjunct attached to the end is probably a comparatively modern addition, designed to enable the performer to hold the instrument with greater ease, as the violin is held.

Among the antiquated viols exhibited deserve to be noticed—An Italian *violetta piccola*; a French *par-dessus*; a French *quinton*; an English Treble viol, Counter-tenor viol, and Tenor viol.

The *viola d'amore* was represented by about half a dozen specimens, including one lent by Mr. Joseph Lidel, which was made in the year 1719, and which formerly belonged to the Prince-Bishop of Salzburg, whose coat of arms is gilded on the front. The back of this instrument is carved out of a solid piece of wood.

A *viola d'amore*, made about the year 1660, probably Italian, which was exhibited by Professor Oakeley, is noteworthy inasmuch as it is without the usual sympathetic wire strings. It has, however, the usual seven cat-gut strings, and the carved head of Amor which characterize

the *viola d'amore*. It may be remarked here that there are also specimens extant which have only five cat-gut strings, with eight wire strings under them. Some such instruments of a yellowish colour were made by Jakob Rauch in Manheim during the first half of the eighteenth century.

A fine specimen of the cither-viol (*psaltery*), but out of repair, was exhibited by the Marquess of Exeter. It is probably of English manufacture, dating from about the middle of the eighteenth century.

Besides the fine *viola da gambas* belonging to the Museum, there were in the Exhibition some English ones by Barak Norman. One of these is dated 1696. Another, with the inscription *Barak Norman, at the Base Viol in Saint Paul's Alley, London, fecit 1690*, has some fine carving upon it; but, unfortunately, it is no longer in its original condition, it having been altered to be used as a violoncello. A small specimen of the *viola da gamba*, exhibited by Lord G. Fitzgerald, was probably made in England during the second half of the seventeenth century.

It is seldom that one meets with a seven-stringed *viola da gamba*. There were, however, two specimens of it in the Exhibition, one of which, a remarkably fine instrument, of Italian workmanship, with a well-carved head, was lent by M. Gallay, of Paris. Unhappily, an attempt had been made by a modern hand to improve it by adding sympathetic wire strings.

The *viola da gamba* was made occasionally with fewer strings than six. Four-stringed ones met with at the present day are almost invariably altered six-stringed ones, on which the neck has been narrowed and the head shortened, so that the instrument may be used as a small violoncello. An English *viola da gamba* with only four strings, which evidently has never been tampered with, and which is in a well-preserved condition, bears the inscription *John Baker, Oxon, 1688*. In the four-stringed *viola da gamba* the invention of the violoncello appears to be anticipated; the six-stringed one, however, best exhibits the characteristic features of the immediate predecessor of the violoncello. Not so powerful as its offspring, and therefore less suited for our present orchestra, it is really a charming instrument for solo performance in a private room. A good player can, so to say, sing upon it, and the arrangement of its strings and frets facilitates the execution of successions of chords. In fact, harmonious combinations are of frequent occurrence in the compositions which our ancestors wrote for the *viola da gamba*.

The *viola di bardone* may be regarded as a large *viola d'amore*. There were two fine specimens of this scarce instrument in the Exhibition; they belong to the Museum, and are described in the present Catalogue.



Furthermore, the Welsh *crwth* was represented by a specimen lent by Mr. C. Wynne Finch.

We now proceed to those instruments played with a bow which are at the present day in practical use. They must be seen and heard to be properly appreciated. However, a notice of such as most deserved the attention of the visitors will assist the reader in forming a correct opinion of the excellence of a collection comprising a large number of violins, violas, and violoncellos of famous Italian makers.

#### *Violins.*

A Gaspard Duiffoprugcar, 1512, lent by Signor Francalucci ; there may be a doubt whether this violin is really of the maker to whom it is assigned, but it certainly is an excellent instrument of the earliest period.

A Nicholas Amati, lent by M. Gallay, of Paris ; a very fine violin.

An Antonius and Hieronymus Amati, 1628, lent by Mr. C. J. Read, Salisbury ; large pattern, amber varnish ; a fine specimen.

An Antonius Stradiuarius, 1734, lent by Mr. W. A. Tyssen Amhurst, Didlington Hall, Norfolk.

A Stradiuarius, about 1690, lent by M. Georges Chanot, London.

A Stradiuarius, 1723, lent by H.R.H. the Duke of Cambridge ; purchased by H.R.H. the late Duke of Cambridge from Count Platen, of Hanover, who had bought it from Stradiuarius ; grand pattern.

A Stradiuarius, 1732, lent by Mr. John H. Arkwright, Hampton Court, Leominster ; a specimen of the grand pattern ; purchased from Signor Piatti for 200*l.* ; from the Castellbani collection in Naples.

A Stradiuarius, 1686, lent by the Rev. Henry Cooper Key, Stretton Rectory, Hereford ; resembling the Amati model.

A Stradiuarius, 1725, lent by M. Eugene Lecomte, Paris ; grand pattern ; remarkably fine.

A Stradiuarius, 1712, lent by Mr. Andrew Fountaine, Merton Hall, near Norwich. This small violin, made for a child's use, is a very characteristic specimen of the maker's best period.

A Stradiuarius, 1709, named "La Pucelle," the property of M. Glandaz, lent through M. Vuillaume, of Paris ; a very fine instrument ; splendid varnish.

A Stradiuarius, 1716, named "Le Messie," lent by M. Vuillaume. This beautiful violin, of its maker's best period, is in an admirably well-preserved condition. Its owner, M. Jean Baptiste Vuillaume, the celebrated violin maker, points out that it has scarcely been played upon at all, and that it is in precisely the same condition in which it passed from the hands of Antonius Stradiuarius, more than a century and a half ago. He adds that the excellent quality of sound of this

instrument refutes the prevailing notion that the superiority of tone of the old Italian violins is in great measure owing to their having been for many years in constant use. This violin was bought, in the year 1760, by Le Comte Cozio de Salabue, after whose decease it was sold to Luigi Tarisio, a great connoisseur and collector of old violins. Tarisio kept it in his possession, as a precious treasure, until his death in the year 1854. It is said that he could rarely be prevailed upon to show it to anyone, for fear that he might be tempted to sell it. M. Vuillaume recently declined an offer of 600*l.* for this violin.

A Stradiuarius, lent by Mr. John Hart, London; very fine.

A Joseph Guarnerius, 1734, named "Violin du Diable," because it was played by M. Saint Leon in Paris with much effect in an opera of that name. This very fine violin is the property of Madame Fleury, who lent it through M. Vuillaume.

A Joseph Guarnerius, 1735, lent by M. Louis d'Egville, London.

A Joseph Guarnerius, 1734, lent by Mr. W. A. Tyssen Amhurst.

A Joseph Guarnerius, made for a child at the best period of the maker; lent by Mr. Andrew Fountaine.

A Joseph, son of A. Guarnerius, 1684, lent by H.R.H. the Duke of Edinburgh; given to H.R.H. the Duke of Edinburgh by the late Baron Goldschmidt.

A Ruggeri, 1704, lent by M. Gally.

A Carlo Bergonzi, 1727, lent by Mr. J. Hart.

A Maggini, lent by Mr. J. H. Arkwright; handsome double purfling, ornamented back; purchased from Mr. Blagrove for 50*l.*

A Jacobus Stainer, 1695; small, with a lion's head carved on the scroll; lent by H.R.H. the Duke of Edinburgh. Formerly the property of the late Duke of Cambridge, and given to H.R.H. the Duke of Edinburgh by H.R.H. the Duke of Cambridge.

Passing over several extravagances,—such as a violin of silver, made at Cawnpore, East India, in the year 1781, and until recently in Signor Mario's museum at Florence; an old violin, the shape of which is peculiar, being flat, without sides; a highly interesting violin, which is said to have been given by Queen Elizabeth to the Earl of Leicester, and which is described in the present Catalogue (page 287),—we now proceed to the

#### *Violas.*

A Joan Karlino, Brescia, said to be of the year 1452, lent by M. G. Chanot.

A Linaro, Venice, 1563, lent by Signor Francalucci.

An Amati, lent by Her Majesty the Queen; reduced from a viol. With paintings on the back: to the left a figure of St. John the Baptist,

with the lamb; in the centre a coat of arms; to the right another figure, nearly obliterated by use. Inscription round the sides: *Ecce Agnus Dei, Guilia Maria Bernardi*. This instrument, like several other noble violas exhibited, has, unfortunately, been cut down at the sides, to render it more convenient for modern use.

A Nicholas Amati, 1620, lent by Mr. Willet L. Adye, Packpool House, Ryde. Painting on the back. Purchased in Venice in the year 1793, from the noble family of Radetti. Its dimensions were reduced in 1811, for General Kidd, by J. Dodds, St. Martin's Lane.

An Amati, lent by Mr. J. Hart; fine, but has been reduced.

A Montagnana, Venice, about 1738, lent by Madame Risler.

A Jacobus Stainer, 1660, lent by Signor Piatti; as fine a specimen as possible of its maker's work. It was purchased at the sale of the Count Cæsar de Castellbarco.

H.R.H. the Duke of Edinburgh exhibited a viola said to have belonged to Handel, and bought in New Zealand. Considering that Handel played for some years a second fiddle in the orchestra of the Opera House at Hamburg, it appears not at all improbable that he kept in his possession an instrument or two of the violin kind; and considering likewise that in European countries no stone has been left unturned in ransacking for valuable old fiddles, it may possibly be that there is a better chance of hunting for them successfully in New Zealand than at home.

#### *Violoncellos.*

An Andreas Amati, 1572; lent by the Rev. Alex. H. Bridges, Beddington House, near Croydon, Surrey; fine purfling; painted at back and sides.

An Antonius and Hieronymus Amati, 1615; lent by the Rev. John Blow, Goodmanham, Market-Weighton, Yorkshire.

A Sanctus Seraphino, Venice, about 1730; lent by Mr. H. B. Heath, London; one of the finest specimens of this maker known.

A David Techler, Venice, about 1700; lent by Mr. Thomas Faulconer; very fine.

A Joseph, son of Andreas, Guarnerius, 1702; lent by H.R.H. the Duke of Edinburgh, by whom it was bought in New Zealand.

An Antonius Stradiuarius, 1730; lent by Mr. Frederick Pawle, Northhoole, Reigate; a magnificent specimen.

An Antonius Stradiuarius, 1725; lent by M. Gallay, Paris; a magnificent specimen. The vicissitudes which this violoncello has experienced are, if rumour may be trusted, rather extraordinary. M. G. Chanot,



senior, violin-maker in Paris, during an excursion to Spain, happened to see the belly of this bass hanging up with other odds and ends in the shop window of Ortega, a fiddle mender in Madrid. Chanot, who at a glance appreciated its value, went in and bought it for about forty francs. Having secured the precious fragment, he asked Ortega where it came from. Ortega replied that he took it from an old violoncello which a lady of rank residing in the neighbourhood of Madrid had sent to him to be repaired. As there were so many cracks in the belly, he had substituted for it a nice new one of his own making. Chanot carried the belly away with him to Paris and placed it among the treasures in his shop. There it was seen, some time after, by Luigi Tarifio, the enthusiastic Italian collector before mentioned, who was charmed with it, and bought it from Chanot for a thousand francs. Having ascertained that the violoncello to which this fragment originally belonged was in the possession of a lady living near Madrid, Tarifio at once set out to Spain. Arrived at Madrid, he called first upon Ortega to learn the exact address of the lady, and how best to proceed. Now, the lady, when she became aware that a gentleman had travelled a long way to look after her old bass with a view of purchasing it, thought, of course, that it must be worth a great deal of money, and therefore said that she had no wish to sell it; she would, however, give it to him for four thousand francs. Tarifio was only too glad to pay the sum; and having secured the bass, he carried it triumphantly to Paris. The first thing he did was to have the new belly removed and the old cracked one reinstated. After its restoration M. Gallay bought the instrument for 20,000 francs (800*l.*).

#### *Double Basses.*

Among the double basses in the Exhibition deserving special mention, were :—

A *Basso di Camera*, lent by Her Majesty the Queen. Supposed to be by Domenico Montagnana of Venice, about 1725; bequeathed to H.R.H. the Prince Consort by Signor Dragonetti; very fine.

A Gaspar di Salo, Brescia, 1580; lent by the Rev. G. Leigh Blake, Buriton, Petersfield; a fine specimen, formerly the property of Signor Dragonetti.

A Gaspar di Salo, 1590, lent by Mr. John Hart; a small bass in a good state of preservation.

Two double basses assigned to Gaspar di Salo, probably by Maggini; lent by Mrs. Salomons, London; formerly belonging to Signor Dragonetti.

## 366 *Special Exhibition of Musical Instruments.*

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A double bass assigned to Gaspar di Salo, probably by Maggini, lent by the Duke of Leinster.

A huge double bass, given to the Museum by the Duke of Leinster; &c.

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The Exhibition also contained several beautiful violin bows by Tourte and other celebrated bow makers. Likewise some tastefully-shaped and ornamented cases, originally made for the old instruments to which they belong.

As regards the old English violins, tenors, and violoncellos, those by Benjamin Banks, Edmund Aireton, Richard Duke, William Forster, and other makers of the eighteenth century, were sufficiently represented; likewise the gambas by Barak Norman, dating from the seventeenth century. There are, however, several other English makers, formerly much esteemed, of whose manufacture some well-preserved instruments may be still in existence, as, for instance:—Thomas Urquhart, seventeenth century; Edward Pamphilon, seventeenth century; Daniel Parker, beginning of eighteenth century, &c. Thomas Mace, in his ‘Musick’s Monument,’ London, 1676, says that “of viols and basses there are no better in the world than those of Aldred, Jay, and Smith; yet the highest in esteem are Bolles and Rofs. One bass by Bolles I have known valued at 100*l*.” And he adds, “These were old, but we have now very excellent good workmen, who, no doubt, can work as well as those, if they be so well paid for their work as they were.” Also the manufacture of lutes, theorbos, and cithers was, about two centuries ago, assiduously carried on in England. This is well known to musical antiquarians; but the superiority of the Italian instruments has somewhat obscured the indigenous ones. Would it not be advisable to save as a memorial at least one or two specimens of each antiquated kind of English workmanship and art formerly popular in the British Isles?

### CLASS III.

#### HARPS, LUTES, GUITARS, CITHERS, DULCIMERS, &c.

On some of the instruments included in this class the sound is produced by twanging the strings with the fingers:—*harp, lute, theorbo, guitar*, &c.; on others, by twanging the strings with a quill, or other kind of plectrum:—*cither, mandoline*, &c.; and again on others, by striking the strings with little hammers:—*dulcimer*, &c.

Among the harps exhibited were some French ones tastefully ornamented, dating from the seventeenth and eighteenth centuries.

Lady Llanover exhibited a Welsh triple harp, which is still in the Museum. (See above, page 291.)

Of the Irish harp, strung with wire instead of catgut, an interesting specimen, made anno 1671, was exhibited by the Marquess of Kildare, Carton, Maynooth; and another, by Archdeacon Saurin, Segoe, Portadown. The latter has subsequently been presented to the Museum. (See above, page 240.)

A valuable wreck of an old Irish harp, dating from the year 1621, was lent by Robert Marriott Dalway, Esq., M.P., Bella Hill, Carrickfergus, Ireland. Only two pieces are remaining, the sound-board being lost. The one piece called the Harmonic Curve is of yew, and the carving upon it is very fine. The bow, or fore-bar, is probably of fallow, and is nicely carved. This harp is supposed to have had fifty-two strings. A notice of it will be found in Bunting's Collection of the Ancient Music of Ireland, vol. i., London, 1809. Bunting remarks, "The instrument, in truth, deserves the epithet claimed by the inscription on itself, *Ego sum Regina Cithararum.*" He cites the inscriptions which are in the Irish language, and suggests that many more were probably contained on the sound-board. As to the purport of the inscriptions, he says, "Every part of the remaining fragments is covered with inscriptions in Latin and in the Irish character; the former containing mottoes and the name of the maker [Donatus Filius Thadei]; the latter, the year in which it was made [A.D. 1621] and the servants' names of the household, &c. According to an old custom, the instrument is supposed to be animated; and, among other matters, it informs us of the names of the two harpers who had produced the finest music on it. These were, it seems, Giolla Patrick M'Credan, and Diarmad M'Credan."

The Irish and Scotch harpers twanged the strings of their harps, which were of brass, with their nails. They allowed their nails to grow, for the purpose, to a considerable length, and they trimmed them, making them somewhat pointed, like the quills of the harpsichord.

There were two bell-harps in the Exhibition, one of which is still in the Museum, and is described in the present Catalogue.

A *harpanetta* (*arpanetta*, *arpa doppia*) was lent by M. César Snoeck of Renaix, Belgium. Two centuries ago, and earlier, popular on the continent, the *harpanetta* has now become quite antiquated. In Germany it is called *Spitzharfe* (from *spitz*, "pointed,") because it is pointed at the top; and also *Davidsharfe*, from an unauthenticated notion that it is the species of harp upon which King David played. It might rather be classed with the dulcimer. It has two sound-boards, —one strung with thin steel wire, and the other with brass wire. When



played it is placed vertically on a table, so that the sound-board containing the steel wire strings, which yield the higher tones, is to the right of the player, and the sound-board containing the brass strings, which yield the deeper tones, is to the left. The performer used to twang the strings with his nails or with silver thimbles having a little point at the end, which he put on his finger-ends. The *harpanetta* was generally of small dimensions, being about three feet in height, but it was mounted with a great number of strings, which were arranged in groups of two or three tuned in unison. Its compass embraced about four octaves, and its quality of sound somewhat resembled that of the old cither. M. César Snoeck's specimen being unstrung, its musical qualifications could not be ascertained.

The *lute* was not so well represented as its offspring the *theorbo*. There were, however, some fine specimens of Italian workmanship. Towards the end of the seventeenth century the lute appears to have come to be regarded as somewhat out of fashion in England. At any rate, Thomas Mace, in his 'Musick's Monument,' London, 1676, prefaces his Instructions in Lute-playing with a dialogue written in doggerel verse, in which the lute complains of being neglected, because—

“ The world is grown so slight ; full of new fangles,  
And takes their chief delight in fingle-fangles,  
With fiddle-noises, pipes of Bartholmew.”

It is, therefore, perhaps not so surprising as it may have appeared to some visitors, that there was only one English lute in the Exhibition. Besides, it is an instrument of too delicate construction long to withstand the tooth of time.

It would take more space than can here be afforded to specify the handsome guitars, mandolines, and pandurinas which were exhibited.

The Marquis of Exeter lent a *cither*, very old-fashioned in shape, which was probably made in London about the year 1700. Another cither, with the inscription *Remerus Lieffem, London, 1756*, may be noticed as affording evidence of the old-fashioned shape having been occasionally adopted by English makers even as late as the middle of the eighteenth century. The body has several incurvations at the sides. Athanasius Kircher, in his 'Musurgia,' Rome, 1650, gives an illustration of a similarly-shaped cither, which he calls the common cither. The English Orpheon, or Orpharion, and the Penorcon also had incurvations like those of the instrument in question.

Sir Digby Wyatt lent an English Keyed-cither, on which six keys are placed in a little box above the strings, and the hammers strike the strings from above ; and Professor Oakeley, Edinburgh University, lent

another English Keyed-cither, on which six keys are placed by the side of the strings, and are connected with a mechanism inside the instrument, which causes the hammers to strike the strings from below through the sound-hole. The idea of applying keys, like those of the pianoforte, to the cither, and thus striking the strings with hammers instead of twanging them with a quill, originated in Germany. Various patents were taken out in London by German and English manufacturers relating to this invention, which, however, proved to be of but little practical advantage.

A *cetera*, or Italian cither, probably of the seventeenth century, lent by M. César Snoeck, deserves special mention. This interesting instrument is of the kind with which the Improvisatori used to accompany their effusions. The top terminates in a finely-carved figure, and the body is flattened towards the end. It is mounted with twelve wire strings, which are placed in pairs, and produce six tones. The tastefully-carved little tuning-pegs are inserted in a somewhat oblique position above the top of the finger-board.

Another *cetera* was lent by M. Vuillaume, who describes it as being the work of Antonius Stradiuarius, dating from the year 1700, and a label in the inside assigns it to that maker. The carving of the head, representing Diana, is very fine, and the instrument is in excellent condition.

It may be remarked here that the French term *cistre* or *fistre* does not designate the *cetera* exclusively, but is applied to any cither.

A singular evidence of the popularity of the cither, or cistre, on the continent, at a remote period, is preserved in the family name of Cisterman, designating a performer on this instrument, or perhaps a cither maker. No doubt, the same occupation being often carried on in a family through several generations, the family derived its name from the occupation which it was known to pursue. Thus we find in Germany the names Pfeifer (a piper), Wedeler (a fiddler), Ludeman (a lutenist, or perhaps a lute maker), Hornemann (a horn-blower); and in England, Piper, Harper, Chalmer (player on the shalm), Crowther (player on the crwth or crowd), and others. Edmond Vander Straeten, in his publication of the old documents relating to the music of the Netherlands, entitled 'La Musique aux Pays-Bas avant le XIX<sup>e</sup> Siècle,' Brussels, 1867, mentions some old family names of this kind found in Belgium and Holland, as, for instance, Cisterman, Vander Luute, De Vedelaere (fiddler), De Harpeneer, Sacqueboute (trombone-player), Akar (nakar-player, drummer).

There remains to be recorded a fine display of Italian dulcimers incorporated in the present class. Suffice it here to draw attention to

carving, gilding, and painting on some of them. They are  
venteenth and eighteenth centuries.

England the dulcimer had already fallen into neglect in the  
g of the eighteenth century. James Graffineau, in his 'Mu-  
tionary,' London, 1740, remarks that "it is not much used  
among puppet-shows." Still, its tone is sweet, and really charm-  
the player understands how properly to use the soft-leathered and  
thered ends of the hammers. But it is too simple an instrument  
performance of elaborate compositions.

## CLASS IV.

### TRUMPETS, HORNS, AND SIMILAR WIND INSTRUMENTS.

struments of the trumpet kind,—used not only in musical per-  
es, but also for conveying signals in war, or in the chase, or for  
g gangs of labourers at their work, or for similar purposes,—are  
und in almost every part of the world, and are of great variety.  
many of them may be called horns, if only such instruments of  
d deserve to be regarded as trumpets the tube of which does  
eafe in thickness, or but slightly so, in its whole length. The  
, however, generally terminates in some sort of expansion,  
e bell. But, in a wider sense, all the instruments in question  
said to belong to the trumpet family.

Colonel A. Lane Fox lent a bronze trumpet, which was found with  
ers, two of which have side-holes, in Drumabest Bog, parish of  
nts, county Antrim, Ireland, in the year 1840. The dimen-  
this trumpet, which is figured in the 'Ulster Journal of  
ogy,' are:—Length of curve, 2 ft. 11 in.; distance from point  
, 1 ft. 11 $\frac{3}{4}$  in.; diameter at large end, 2 $\frac{1}{2}$  in.; diameter at  
d, 1 $\frac{1}{8}$  in.; diameter of ring, 1 $\frac{1}{2}$  in. Colonel A. Lane Fox  
a portion of a bronze trumpet which was found in draining at  
, county Cork, Ireland. Mr. John Davidson lent a bronze  
said to have been dug up near Antrim, in Ireland, which  
s above five feet in length, and is probably a Danish *lure* of the  
r ninth century. The Royal Museum of Northern Antiquities  
hagen possesses several ancient Scandinavian trumpets of this  
bove six feet in length. The serpentine winding given to the  
bled the trumpeter to carry the instrument by holding it under  
arm and across his back, so that the bell, which he held with  
hand, was turned towards his right hip. The Museum at  
agen contains some old trumpets made of gold. One of



young peasant girl, who one evening on her way home remained sticking up out of the ground by the road-side. Bronze trumpets of mediæval time, excavated from bogs or mosses in Ireland, are preserved in the Royal Irish Academy at Dublin.

Prince Charles of Hohenzollern-Sigmaringen lent five old German trumpets, so noble and martial looking that even the sight of them was invigorating. They date from the seventeenth century. Two of them were made by Johann Leonard Ehe in Nürnberg; one by Hieronymus Stark, in Nürnberg, anno 1669; another by Christopher Frank; and another by Magnus Wolf. Prince Charles of Hohenzollern-Sigmaringen also lent a German *Waldhorn*, or *Jagdhorn* (Italian, *Corno da caccia*; French, *Cor de Chasse*), made in the year 1688, by Wilhelm Harnisch, a maker whose trumpets, which were usually ornamented with silver heads, had a high reputation in Germany during the eighteenth century. The town of Nürnberg was distinguished for its makers of brass instruments as well as for its makers of lutes and viols. Schnitzer in Nürnberg, towards the end of the sixteenth century, manufactured trumpets inlaid with silver and gold, which were purchased by the German princes and high ecclesiastics. Still earlier, about the year 1500, Hans Meuschel in Nürnberg, made fine trombones, said to have been entirely of silver, and his reputation extended as far as to Italy. Leo X. summoned him to Rome, commanded him to construct trombones of silver, and rewarded him handsomely. The employment of silver in the construction of such instruments was, however, not common. The municipality of the city of Ghent, in Belgium, possesses several trumpets which date from the fifteenth century. Moreover, long before our Christian era, the eastern nations appear to have constructed trumpets of this precious metal. Moses made, according to Numbers, two trumpets of silver "of a whole piece."

During the eighteenth century the tube of the German trumpet generally measured eight feet in length. The French trumpet was smaller, and its pitch was a minor-third higher than the German. Still smaller was the short English trumpet, called *tromba piccola*, the pitch of which was a fourth higher than that of the German trumpet.

A fine trumpet, probably of English workmanship, about the year 1700, was exhibited by Mr. Thomas Harper, who, in a note furnished with it, remarks: "The length of the tube is 85 inches, being 10 inches longer than the trumpet of the present time,—suggestive of a rise in the pitch."

Her Majesty the Queen lent two German Bugle-horns, made in Hanover, about the year 1800. Also two silver trumpets with brass

bearing the royal arms attached to them. These State trumpets are from St. James's Palace. One of them, evidently made in the reign of George III., has the inscription of the maker's name, *William Shaw, Red Lion Street, Holborn*, engraven on it. In the year 1824, John Shaw, most likely a son of William Shaw, took out a patent for "transverse spring slides for trumpets, trombones, French horns, bugles, and every other instrument of the like nature."

During the 18th century the Court of the Elector of Saxony and some other German courts of the highest class, kept eight trumpeters and a kettle-drummer, while the smaller courts restricted themselves to four trumpeters and a kettle-drummer. The principal duties of these men were to meet the ambassadors coming to an audience; to carry the invitations to high persons to dine with the Sovereign; and to perform during the banquet. The King of Poland and Elector of Saxony, about the year 1700, had twelve trumpeters and two kettle-drummers for this purpose. So had also Queen Elizabeth. Paul Hentzner, a German who visited the English Court in the year 1598, records in his journal that he went to the royal palace at Greenwich to see the Queen. On her dinner being brought in "twelve trumpets and two kettle-drums made the hall ring for half-an-hour together."

There requires to be put on record an assemblage of specimens, varying in size, of the German (or perhaps Dutch) *zinken*, lent by M. César Snoeck; and a pair of foresters' horns, probably of the 18th century, lent by Mr. J. Gordon Smith, which are of hexagonal shape and have silver mountings figured with objects of the chase.

## CLASS V.

### FLUTES, OBOES, AND SIMILAR WIND INSTRUMENTS.

The most interesting flutes in the Exhibition were the following:—

A French flageolet, engraved iron, period of Louis XIII. (first half of 17th century); lent by M. Jubinal.—A flageolet, made by Holtzapfel in Paris, probably about 1790; ebony or stained wood, and ivory; a silver key; lent by Mr. G. F. Ducombe.—A flûte à bec of carved ivory, probably French, about 1600; lent by M. Jubinal.—An English flûte à bec (in F) of ivory and silver, made about the year 1700; lent by Mr. J. Gordon Smith.—An English flûte à bec (in B-flat) of ivory and silver, made by Stanefby, jun., 1740; lent by Mr. J. Gordon Smith.—An English recorder, 17th century. It closely resembles the flute in the hands of the player, Fig. 104. Near the top, about an inch from the mouth-hole, is situated a hole covered with thin bladder, like

gold-beater's skin. The object of this contrivance was to render the sound, by means of the vibration of the delicate film, more tender and somewhat reedy, like that of the oboe. This recorder is of black-stained wood. It has six finger-holes at the upper surface, one at the side towards the end, and one for the thumb opposite to the row of six. Length, 26 inches.—A flauto dolce, or an Italian flûte à bec, made by Anciuti in Milan, anno 1740. This fine instrument belongs to the Museum, and is described in the present Catalogue, p. 224.—A flûte traversière, made of porcelain, said to have belonged to King Charles II.; lent by Mr. Thomas Warner, Crumpsall Green, near Manchester. It has three centre pieces of different sizes, by the change of which the pitch is altered.—Some German tenor flutes and bass flutes; some double and triple flageolets, &c.

Of instruments which have a vibrating reed inserted in the tube, the following may be recorded:—An English horn (*Oboe da caccia*, or *Cor Anglais*), made of red cedar, by Thomas Stanesby, jun., 1740; lent by Mr. J. Gordon Smith.—An English horn with two keys, made by T. Cottier, London; lent by Messrs. J. and R. Glen of Edinburgh.—A Welsh hornpipe lent by Mr. C. Wynne Finch. (See the engraving, Fig. 136.)—A Stock-horn or Scotch hornpipe, lent by Mr. J. Gordon Smith. This instrument, which is now very scarce, resembles the *pib-gorn* of the Welsh. Allan Ramsay in 'The Gentle Shepherd,' published in the year 1725, alludes to the Stock-horn:—

“When I begin to tune my stock and horn,  
 Wi' a' her face she shaws a cauld rife scorn.  
 Last night, I play'd,—ye never heard sic spite!  
 O'er Bogie was the spring and her delyte;—  
 Yet tauntingly she at her coufin speer'd,  
 'Gif she could tell what tune I play'd?' and sneer'd.  
 Flocks, wander where ye like, I dinna care,  
 I'll break my reed, and never whistle mair!”

It must be admitted that, on the whole, the old shalm family was not sufficiently represented. The musical antiquarian would have liked to have seen some well-preserved specimens of the *bombardo* (German, *pommer*), the *cormorne* (German, *krumhorn*), the *dulcian*, a small bassoon, and several others.

Of the bagpipe there was a better display, as may be seen from the following enumeration of noteworthy specimens:—A small Cumberland bagpipe, made about the year 1790; lignum-vitæ and ivory.—A Northumberland bagpipe, made about the year 1800; of ebony and silver, the chanter being of ivory “This instrument,” its owner remarks,



“differs from other bagpipes inasmuch as it can be played perfectly in tune, and also in that the stopping is performed by lifting only one finger at a time,—a method known in Northumberland as close-fingering.”—A very old Border bagpipe, silver-mounted, lent by Messrs. J. and R. Glen of Edinburgh.—A Scotch highland bagpipe, bearing the date 1409; lent by Messrs. J. and R. Glen. It has two drones set in one stock, and is carved in the Celtic style.—Three French *musettes* of the period of Louis XIV., with ivory tubes; lent by M. Jubinal.—A Calabrian bagpipe (*zampogna*) of the 18th century, rudely carved; lent by Messrs. J. and R. Glen.—An Irish bagpipe of ebony and silver.—A fragment of an ancient English bagpipe, consisting of a bone with seven finger-holes; and an ancient Chanter or Melody-pipe of unusual form, with a double tube, and with curiously-arranged finger-holes; this chanter probably belonged to a Lincolnshire or other extinct English bagpipe.

Colonel A. Lane Fox lent a small whistle with a bladder attached to it, which was brought to England from the north-west coast of America. It is carried by the Indians under the arm, and pressed to imitate the noise of a wild duck, which is thus decoyed. This species of bagpipe is curious as being the most primitive one in the Exhibition; but it is probably a comparatively modern contrivance of the American Indians. At the time of the discovery of America the Indians were, as far as is known, unacquainted with the bagpipe.

Professor Oakeley lent a stucco cast of the Peruvian *huayra-puhura*. (See Fig. 61.) Furthermore, the Exhibition contained a case with some pre-historic reindeer bones from the Cavernes du Perigord, which are supposed to have been used as whistles. (See Fig. 2.)

## CLASS VI.

### ORGANS, AND OTHER INSTRUMENTS CONTAINING ORGAN PIPES, OR TONGUES OF METAL.

This class contained only about a dozen instruments, most of which, however, were so interesting as to deserve mention here.

The Museum contributed a German chamber organ of the 16th century, of which a description is given in the present Catalogue.

Mr. R. Wrench, Surbiton, lent an English chamber organ built by Bernhard Schmidt, or “Father Smith,” as he was called in England. The instrument has ten stops. It probably dates from the year 1670.

J. Snowdon Henry, Esq., M.P., East Dene, Bonchurch, lent a German chamber organ made by Hoffheimer in the year 1592. This

maker resided perhaps in Salzburg. At any rate, a distinguished organ player of the same name lived in Salzburg in the 16th century.

Mr. H. W. Jones lent an organ, said to have belonged to Handel, ornamented with some fine carving said to be by Grinling Gibbons.

Mr. C. A. Howell lent a German organ of the 17th century, inlaid with designs in various coloured woods.

Signor Castellani in Rome lent an Italian organ which bears the inscription *Domenicus Antonionus Rossi Neapolitanus Organarius fecit 1763*. This interesting instrument was formerly in a chapel in the island of Ischia.

The *regal*, or organ portative, was represented by a specimen belonging to Mr. Wyndham S. Portal, Malshanger, Basingstoke. The case of this little organ is in the shape of a book, and the pipes have reeds or vibrating tongues of metal. According to the statement of its owner, it dates from the 15th century. However, Johann Gottfried Walther, in his 'Musikalisches Lexicon,' Leipzig, 1732, assigns the invention of the regal made in the shape of a book to Georg Voll, an organ-builder in Nürnberg, about the middle of the 16th century. Also Jakob Adlung, a very careful inquirer, ascribes it to G. Voll. He says, "Such a regal exactly represents a book folio size, from eight to twelve inches in thickness. It is opened in the middle, like a book. The interior contains at each side the key-board, which must be taken out of the cover, and must be accurately adjusted. Under the key-board are the wind-chest and the pipes, which are very small. By reversing the book-cover and attaching it to the end of the works, the bellows are obtained. The book measures about eighteen inches in breadth." This description from Adlung's 'Musica Mechanica Organædi,' Berlin, 1768, accords on the whole with the present specimen. The Germans called such a regal *Bibelregal*, because it was intended to represent a Bible in appearance.

The *claviorganum*, or organ-harpsichord, consists of an organ and a harpsichord (or a spinet) combined. Either can be played separately or with the other together. The separation and the union are effected by means of a stop or a pedal. The claviorganum was, some centuries ago, not uncommon. It enables the performer to sustain the sound at pleasure, which on the harpsichord is as little possible as on the piano-forte. A *claviorganum* exhibited by Mrs Luard Selby, the Mote, Tunbridge, Kent, affords evidence of a higher antiquity of instruments of this kind than might perhaps be expected. It bears the inscription, *Lodowicos Threwes me fecit, 1579*. There is scarcely more remaining of this interesting relic than the outer case; but this is so elaborately finished that, if the mechanism was constructed with equal care and



success, it must have been a superior instrument. The maker is unknown in musical history. Perhaps he belonged to the family of Treu (also written Trew), musicians of repute in Anspach about the year 1600.

An English *claviorganum*, which was lent by Mr. Ch. Pillow, of Chichester, bears the inscription, *Crang, Londini, A.D. 1745*. Its length is nine feet and an inch. It has two key-boards. Compass, five octaves, with the omission of the lowest semitone f-sharp. The harpsichord portion has a first unison stop, a second unison stop, an octave stop, and a lute stop. The organ portion has six stops, viz., twelfth bass, twelfth treble, principal bass, principal treble, open diapason, stopt diapason. When exhibited, it was much out of repair, and not in a playable condition.

The old fancy of a combination of the organ with the clavicembalo, and also with the clavichord, reappears in modern time in the construction of the *organ-piano*, and the *piano-harmonium*,—instruments which prove to be of but little practical use. The quality of sound of the harmonium, as well as of the organ, is too characteristic and individual to blend effectively with that of the pianoforte.

An *organ-hurdygurdy*, and a handsomely-ornamented *serinette*, which were exhibited in this Class, are still in the Museum, and are described in the present Catalogue.

## CLASS VII.

### MISCELLANEOUS INSTRUMENTS.

This class was made up by a heterogeneous assemblage of instruments, none of which would have been in its proper place in any of the preceding classes.

Here were exhibited the beautiful specimens of the French hurdygurdy, or *vielle*, dating from the sixteenth and seventeenth centuries, which belong to the Museum.

Professor Oakeley, Edinburgh University, lent an old English hurdygurdy, and a curious old English tambourine (date unknown) with a number of bells attached to it.

Her Majesty the Queen lent a German *Halbmond*, probably obtained from Hanover, about the year 1800. There are about twenty bells attached to it, and it is surmounted by a crescent. The German *Halbmond* or *Schellenbaum* (French, *Pavillon chinois*), used in military bands, appears to have been originally borrowed from the Turkish Janissary music.



M. Jubinal of Paris lent a tambourine of the time of Louis XIII. ; a pair of castanets of the time of Louis XIII. ; five elegant conductor's batons ; and a lozenge box in the form of a violin, in iron, of the time of Louis XIII.

There were four nail-violins in the present class, two of which had sympathetic strings of very thin brass wire. Furthermore, the following are noteworthy :—A metronome made by James Concliffe, Liverpool, 1798 ; a metronome made by Pridgen, York, eighteenth century ; two old tuning forks, one of which is said to have belonged to Handel ; an old Æolian harp of peculiar construction ; an English monochord of the eighteenth century, used for tuning the harpsichord ; &c.

This may be the place to notice some illustrations of musical instruments. The Liceo Comunale di Musica, at Bologna possesses above fifty instruments, and it contributed to the Exhibition photographs of thirty-five of them. The most remarkable ones are :—An Italian cither (*cetera*) of the beginning of the sixteenth century.—An archlute (*arciliuto*), with the inscription, "Hieronymus Brensius Bonon."—A *chitarrone*, "In Padova Uvendelio Veneto, 1609."—A *chitarrone*, "Matteo Selles alla Corona in Venetia, 1639." A theorbo, "Hans Frei in Bologna, 1597."—A lute, "Magno Stegher in Venetia."—A lute, "Magno Dieffopruchar a Venetia, 1612." This lute has fourteen tuning-pegs, and the strings are arranged in seven pairs, each pair being tuned in unison. The maker evidently belonged to the Tieffenbrucker family alluded to above, page 322.—Several marine trumpets, one of which bears the inscription, "Pieter Rombouts, Amsterdam 17 . ." The marine trumpet (*tromba marina*) is a stringed instrument played with a bow. Owing to a peculiar construction of the bridge its single string produces a sound resembling that of the trumpet. The old German name for the marine trumpet is *Trumbscheit*. This instrument was about seven feet long, and very narrow ; its string was thick, and the performer did not press it down, but touched it lightly with his finger to produce the harmonics.—A *viola da braccio*, "Hieronymus Brensius Bonon."—A *viola da gamba*, "Antonius Bononiensis."—A *fordino*, "Baptista Bressano," supposed to date from the end of the fifteenth century ; its shape is peculiar, somewhat resembling that of the *machête*, representing a fish ; it has four strings.—A violin, "Carolus Tononi fecit, Bononiæ [Bologna] 1717," the head of which resembles that of a cither-viol.—A *viola d'amore*, "Mattias Grieffler, Lauten- und Geigenmacher in Insbrugg, anno 1727."—Two curious old harps.—An old tenor flute measuring in length about three feet.—An *oboe da caccia*.—Some curious double flutes.—*Cornetti*, or *zinken*, of different dimensions.—An *archicembalo*. This

is a kind of harpsichord with four rows of keys, made after the invention of Nicola Vicentino, and described in his work, 'L'Antica Musica ridotta alla moderna prattica,' Rome, 1555. The compass of this archicembalo comprises only four octaves, but each octave is divided into thirty-one intervals, forming in all 124 keys. It was made by Vito Trafuntino, a Venetian, who lived towards the end of the sixteenth century, and who added a *Tetracordo* to it, to facilitate the tuning of its minute intervals. However, the archicembalo was probably not the first instrument of the harpsichord kind which contained an enharmonic arrangement of intervals. The clavicymbalum perfectum, also called univerfalclavicymbel, which Prætorius states he saw in Prague, and which was likewise of the sixteenth century, was of a similar construction. Later we find the subdivision also applied to the square pianoforte. There is such a pianoforte still extant which was made by J. Zumpe in London, in the year 1766.

One of the most singular instruments in the collection of the Liceo Comunale di Musica, at Bologna, is the *cornamusa*, which consists of five pipes inserted into a cross-tube through which they are sounded. Four of the pipes serve as drones, and the fifth, which is the largest, is provided with finger-holes, like the chanter of a bagpipe. The instrument has, however, no bag, although it is probably the predecessor of the species of bagpipe called *cornamusa*, and most likely had reeds. An illustration of a *cornamusa* of this description may be found in the 'Musurgia,' by Athanasius Kircher, Rome, 1750.

## CLASS VIII.

### ETHNOLOGICAL SECTION.

The so-called Ethnological Section was amply supplied with curious contrivances from all parts of the world. Most of them were probably made in the present century. They are, however, precisely similar to those which have been in use for centuries with the nations or tribes to which they appertain.

Her Majesty the Queen contributed largely to this Class. There were about forty extra-European instruments from Windsor Castle.

The great variety of the musical instruments of the Hindus was well illustrated by a selection from the specimens belonging to the East India Museum in London, and lent by authority of his Grace the Secretary of State for India.

Unfortunately many of these quaint-looking objects are constructed of materials so fragile that they are easily injured. It is not often that

one sees a musical instrument from Hindustan in a perfectly sound condition.

As regards the brass wind instruments of the Hindus and Burmese, twisted like serpents and other reptiles, it is said that in the beginning of the present century some London instrument makers took to manufacturing such grotesque-looking trumpets for exportation to the East. In order to meet the taste of the intended purchasers, they made these articles exactly after Asiatic patterns; it is, therefore, not impossible that among the brass wind instruments brought from Asia to England, and exhibited as Eastern curiosities, there may be occasionally a specimen whose real birthplace is in the neighbourhood of its present abode.

The Ethnological Section contained also grotesquely-shaped negro instruments, some of which were "adorned" with human skulls and jaw-bones; Polynesian nose-flutes; and other such fanciful conceptions of uncivilised nations.

Several of the stringed instruments exhibited in this Class had been altered, evidently with the intention of improving them, and of adapting them to European use. Ethnologically, such an altered instrument possesses no interest, and musically it does not come up to the European model in imitation of which it has been reconstructed.

A more detailed record of the contents of Class VIII. is hardly required here, considering that the Ethnological Section was of secondary importance in the Special Exhibition of Ancient Musical Instruments.





## INDEX OF NUMBERS.

*The last two Numbers indicate the year in which each object has been acquired.  
In the case of Reproductions these numbers are put first.*

Register No.	Page.	Register No.	Page.	Register No.	Page.
1. '68.	161	26. '70.	189	391. '71.	242
1. '70.	179	26a. '70.	189	392. '71.	257
2. '67.	283	26b. '70.	189	393. '71.	180
2. '70.	180	27. '70.	190	394. '71.	231
3. '70.	182	28. '70.	190	395. '71.	173
4. '69.	236	28a. '70.	190	396. '71.	255
4. '70.	181	28b. '70.	190	397. '71.	164
5. '70.	178	28c. '70.	190	398. '71.	263
5a. '70.	178	28d. '70.	190	398a. '71.	263
6. '70.	178	29a. '70.	191	402. '72.	270
6a. '70.	178	30. '70.	192	430. '72.	268
7. '70.	178	34. '69.	260	487. '72.	267
7a. '70.	178	35. '67.	255	494. '72.	199
8. '70.	187	37. '70.	258	499. '68.	260
9. '70.	182	37. '73.	250	502. '68.	248
9. '71.	243	37a. '73.	250	503. '68.	248
10. '70.	182	73. '65.	230	504. '68.	249
10. '71.	261	95. '70.	233	507. '68.	252
'52. 11.	239	105. '71.	224	508. '68.	252
11. '70.	192	105a. '71.	224	509. '68.	252
12. '70.	191	105b. '71.	224	512. '68.	186
12a. '70.	191	105c. '71.	224	519. '72.	261
13. '70.	182	105d. '71.	224	519a. '72.	261
14. '70.	183	105e. '71.	224	519b. '72.	261
15. '52.	167	105f. '71.	224	541. '72.	261
15. '70.	184	105g. '71.	224	576. '72.	209
'57. 16.	229	115. '65.	264	577. '72.	234
16. '70.	185	115a. '65.	264	616. '72.	240
16. '71.	238	115b. '65.	264	629. '68.	283
17. '70.	192	115c. '65.	264	637. '72.	226
17a. '70.	192	147. '69.	236	641. '69.	259
18. '70.	190	155. '69.	275	642. '69.	258
18a. '70.	190	156. '69.	275	643. '69.	259
18b. '70.	190	183. '69.	254	663. '69.	147
19. '70.	184	201. '72.	251	664. '69.	147
20. '70.	184	218. '70.	271	665. '69.	147
21. '70.	185	219. '66.	249	666. '69.	148
22. '70.	194	220. '66.	233	667. '69.	149
23. '70.	194	264. '66.	235	668. '69.	149
24. '70.	186	274. '72.	151	669. '69.	149
25. '70.	188	364. '64.	233	670. '69.	145
25a. '70.	188	389. '71.	254	671. '69.	146
25b. '70.	188	390. '71.	254	672. '69.	146

Register No.	Page.	Register No.	Page.	Register No.	Page.
673. '69.	146	978. '72.	183	1609. '72.	164
675. '69.	146	989. '69.	203	1610. '72.	172
676. '69.	145	990. '69.	203	1611. '72.	171
676. '72.	254	991. '69.	204	1612. '72.	170
676 <i>a</i> . '72.	254	992. '69.	203	1613. '72.	165
677. '69.	145	993. '69.	202	1614. '72.	162
678. '69.	144	999. '69.	204	1615. '72.	170
679. '69.	153	1009. '69.	210	1616. '72.	171
680. '69.	154	1010. '69.	210	1617. '72.	168
681. '69.	154	1011. '69.	210	1618. '72.	174
682. '69.	151	1012. '69.	215	1619. '72.	169
683. '69.	152	1013. '69.	212	1620. '72.	163
684. '69.	152	1014. '69.	213	1621. '72.	162
685. '69.	152	1015. '69.	213	1622. '72.	168
686. '69.	152	1016. '69.	213	1623. '72.	168
687. '69.	153	1017. '69.	213	1624. '72.	164
688. '69.	142	1018. '69.	212	1625. '72.	166
689. '69.	142	1019. '69.	212	1626. '72.	171
690. '69.	149	1025 <i>c</i> . '71.	198	1627. '72.	164
691. '69.	147	1027. '69.	214	1628. '72.	175
692. '69.	143	1028. '69.	215	1629. '72.	175
808. '69.	226	1028. '71.	199	1630. '72.	176
809. '69.	272	1031. '69.	211	1631. '72.	177
810. '72.	229	1032. '69.	208	1632. '72.	176
813. '73.	271	1036. '71.	198	1633. '72.	169
838. '69.	194	1037. '71.	199	1650. '71.	224
839. '69.	194	1079. '68.	279	1650 <i>a</i> . '71.	224
877. '68.	191	1080. '68.	154	1650 <i>b</i> . '71.	224
885. '69.	197	1121. '69.	278	1650 <i>c</i> . '71.	224
927. '69.	159	1122. '69.	247	1737. '69.	250
933. '73.	179	1123. '69.	229	1739. '69.	283
934. '73.	180	1124. '69.	225	1740. '66.	239
935. '73.	181	1125. '69.	241	1757. '69.	141
936. '69.	157	1126. '69.	243	4087. '57.	236
936. '73.	179	1127. '69.	225	4265. '57.	269
937. '73.	164	1255. '72.	229	4274. '56.	246
938. '73.	188	1274. '72.	228	4449. '58.	238
939. '73.	157	1298. '71.	263	5989. '59.	245
940. '73.	158	1298 <i>a</i> . '71.	263	6007. '59.	276
958. '69.	219	1384. '64.	285	7356. '61.	253
959. '69.	221	1384 <i>a</i> . '64.	285	7360. '61.	262
960. '69.	219	1384 <i>b</i> . '64.	285	7469. '61.	224
961. '69.	217	1385. '64.	285	7701. '61.	185
962. '69.	218	1444. '70.	266	7754. '62.	249
963. '69.	220	1444 <i>a</i> . '70.	266	7755. '62.	243
964. '69.	220	1561. '71.	143	7756. '62.	242
965. '69.	220	1602. '55.	229	7953. '62.	227
966. '69.	220	1606. '72.	159	7954. '62.	228
967. '69.	220	1607. '72.	169	8035. '62.	228
968. '69.	221	1608. '72.	174	8531. '63.	238
977. '72.	188				



## GENERAL INDEX.

A.		Page
	Page	
Abel, viola da gamba player . . . . .	262	
Abyssinian drum . . . . .	146	
„ fiddle . . . . .	309	
„ lyre . . . . .	149	
„ trumpet . . . . .	153	
Academy of the ancient Mexicans . . . . .	85	
Acocotl, Mexican . . . . .	73	
Adlung, on the regal . . . . .	375	
Adrien le Roy, on the lute . . . . .	241	
Adufe, Arabian . . . . .	32	
Æolian harp . . . . .	200	
„ „ in the Special Exhibition . . . . .	377	
Afranio, inventor of the bassoon . . . . .	227	
African instruments . . . . .	141	
Agricola, his illustrations of the Geige . . . . .	260	
Aireton, violin maker . . . . .	366	
Ajacaxtli, of the Aztecs . . . . .	79	
Akadu, instrument of Timor . . . . .	306	
Albanus, violin maker . . . . .	360	
Aldred, viol maker . . . . .	366	
Alexander Alexandrinus, trigonon player . . . . .	42	
Al-Farabi, Arabian musician . . . . .	61	
Algooja, Indian flageolet . . . . .	164	
Alphorn, Swiss . . . . .	218, 320	
Amati, violin maker . . . . .	260	
„ violins in the Special Exhibition . . . . .	362	
„ violas „ „ . . . . .	363	
„ violoncellos „ „ . . . . .	364	
Amautas, Inca Peruvian . . . . .	84	
Amazon-stone . . . . .	81	
Ambira, Negro instrument . . . . .	297	
American Indians, their musical instruments . . . . .	65	
Anciuti, instrument maker . . . . .	224, 225	
Anglo-Saxon fiddle . . . . .	101	
„ harp . . . . .	93	
„ trumpet . . . . .	107	
Annibale dei Rossi, spinet maker . . . . .	272, 275	
Antiquated instruments, their qualities of sound . . . . .	121	
Antiquated instruments in the Museum . . . . .	222, 304	
Antonius Bononiensis, viol maker . . . . .	377	
Apunga, Negro trumpet . . . . .	154	
Arabs, their musical scale . . . . .	60	
„ their instruments . . . . .	57	
Archicembalo . . . . .	377	
Archlute . . . . .	246, 324	
Archiluth . . . . .	246	
Arciliuto . . . . .	246	
Areytos, Inca Peruvian . . . . .	84	
Arghool, Egyptian . . . . .	143	
„ Turkish . . . . .	213	
Armonica, glass harmonica . . . . .	232	
Arpa doppia . . . . .	367	
Arpanetta . . . . .	367	
Arpichord . . . . .	351	
Arrabel, Spanish . . . . .	142	
Ashantee war trumpet . . . . .	154	
Asiatic instruments . . . . .	157	
Afitua, Inca Peruvian . . . . .	83	
Afor, Hebrew . . . . .	27, 162	
Affyrian instruments . . . . .	6	
„ musical band . . . . .	23	
„ bells . . . . .	25	
„ double-pipe . . . . .	25	
„ drums . . . . .	26	
„ dulcimer . . . . .	23	
„ harp . . . . .	21	
„ lyre . . . . .	24	
„ tamboura . . . . .	25	
„ trigonon . . . . .	24	
„ trumpet . . . . .	25	
Attilio, player on the viola d'amore . . . . .	339	
Aulos, ancient Grecian . . . . .	38	
Aura, German instrument . . . . .	173	
Aztecs, their instruments . . . . .	65	
„ their whistles in the Museum . . . . .	285	

	Page		Page
B.		Battista, mandoline maker . . . . .	335
	Page	Bauernleyer, German . . . . .	233
Babylon, pipe from the ruins of . . . . .	9, 285	Baz, Egyptian drum . . . . .	144, 146
Babylonian orchestra . . . . .	26	Been, Hindu instrument . . . . .	159
Bach, J. S., his employment of the viola da gamba . . . . .	262	Beffroi . . . . .	128
„ „ his clavichord music . . . . .	356	Belami, lute maker . . . . .	244
Bachmann, Antonius, instrument maker . . . . .	267, 326	Belapella, American Indian . . . . .	305
Baffo, instrument maker . . . . .	277	Belfry . . . . .	128
Bagana, Abyssinian . . . . .	149	Bellows, of the bagpipe . . . . .	126, 231
Baghlama, tamboura . . . . .	203, 309	„ of the organ . . . . .	108
Bagpipe of American Indians . . . . .	374	Bells, Assyrian . . . . .	25
Bagpipe, ancient, in Asia Minor . . . . .	32	„ ancient Egyptian . . . . .	21
„ ancient Grecian . . . . .	38	„ „ Hebrew . . . . .	33
„ ancient Hebrew . . . . .	31	„ of the Aztecs, America . . . . .	80
„ ancient Roman . . . . .	44	„ Burmese . . . . .	300, 314
„ English . . . . .	321	„ Chinese . . . . .	48, 49, 300, 313
„ French . . . . .	231	„ English . . . . .	127
„ Irish . . . . .	126	„ German . . . . .	292
„ Persian . . . . .	58	„ Grecian . . . . .	129
„ Roumanian . . . . .	220	„ Indian . . . . .	301
„ Russian . . . . .	125	„ Italian . . . . .	127
„ Scotch . . . . .	125	„ Japanese . . . . .	198
„ Turkish . . . . .	214	„ Russian . . . . .	127, 129
„ various names of the . . . . .	214	„ Servian . . . . .	128
Bagpipes in the Special Exhibition . . . . .	373	Bell-harp . . . . .	332
Bainbridge, flute maker . . . . .	317	Bell-ringers, English . . . . .	127, 130
Baker, John, viol maker . . . . .	361	Beni Hassan, ancient lyre of . . . . .	29
Balafo, African . . . . .	154	Bergonzi, Carlo, violin maker . . . . .	363
Balalaika, Caucasian . . . . .	202	Bernhard, organ builder . . . . .	109
Bandøer, English . . . . .	333	Berlioz, his treatise on instrumenta- tion . . . . .	135
Bands, extra-European . . . . .	134	Bertifece, dulcimer maker . . . . .	344
Banduria, Spanish . . . . .	334	Befardus, on the lute . . . . .	241
Bania, Negro instrument . . . . .	151	Betts, bow maker . . . . .	342
Banjo, instrument . . . . .	151	Beuker, instrument maker . . . . .	226
Banks, Benjamin, violin maker . . . . .	366	Bibelregal, German . . . . .	375
Banfee, Hindu flute . . . . .	165	Bijou pianoforte . . . . .	303
Banfree, Hindu flute . . . . .	165	Bijuga-cither . . . . .	257, 330, 331
Banfullee, Hindu flute . . . . .	165	Bird-organ . . . . .	283
Barbiton, ancient Grecian . . . . .	34, 38	Biflex, double guitar . . . . .	251
Barbitos, ancient Roman . . . . .	41	Biva, Japanese . . . . .	194
Bards, ancient American . . . . .	83	Bolero, Spanish dance . . . . .	84
Baron, on the lute . . . . .	241, 324	Bolles, viol maker . . . . .	366
Baryton . . . . .	266	Bombardino . . . . .	226
Bafs flute . . . . .	224, 318	Bombardo . . . . .	226
Bafflaute, German . . . . .	243	Bombardo piccolo . . . . .	226
Bafs viol, English . . . . .	122, 338	Bombulom, mediæval . . . . .	111
Baffe de viole, French . . . . .	262	Bonanni, his Cabinetto Armonico . . . . .	245
Baffon, French . . . . .	227	Bondoung, Burmese . . . . .	175
Baffoon, English . . . . .	226	Border bagpipe . . . . .	321
Baton, Charles and Henri . . . . .	234	Bordone . . . . .	266
		Bortolazzi, on the mandoline . . . . .	248
		Boscherville, sculpture from . . . . .	113

	Page		Page
Botuto, of the American Indians . . . . .	74	Carillon . . . . .	109, 131
Boulou, Negro harp . . . . .	151	Carroccio . . . . .	128
Bourdon . . . . .	231, 266	Casparini, organ builder . . . . .	284
Bow, of the viola da Gamba . . . . .	337	Castanets, ancient Egyptian . . . . .	20
„ old-fashioned . . . . .	342	„ „ Grecian . . . . .	39
„ of the violin . . . . .	261	„ „ Roman . . . . .	45
„ in the Special Exhibition . . . . .	366	„ Chinefe . . . . .	190
„ of the nail-violin . . . . .	344	„ European . . . . .	252
Brensius, lute maker . . . . .	377	„ Hindu . . . . .	171
Bressano, viol maker . . . . .	377	Catgut strings . . . . .	1, 150
Brian Boiroimhe, his harp . . . . .	239	Caucasian instruments . . . . .	202
British lute . . . . .	250	Cembalo, clavicembalo . . . . .	277
Britton, Thomas, his instruments . . . . .	255	Cembal d'Amour . . . . .	357
Broadwood, Messrs., communication from, respecting Handel's harpsi- chord . . . . .	279	Cetera, Italian . . . . .	257, 369, 377
Brummeisen, German . . . . .	172	Chabbâbeh, Persian . . . . .	159
Buccina, ancient Roman . . . . .	45	Chalcophonos, sonorous stone . . . . .	48
Bûche, French . . . . .	331	Chalil, Hebrew . . . . .	30
Buchenberg, lute maker . . . . .	244	Chalumeau . . . . .	226
Buddhists, their god of music . . . . .	53	Chalumeaux, of the mufette . . . . .	231
„ their sacred trumpet . . . . .	296	Chamber organ . . . . .	283, 374
Bueckenberg, lute maker . . . . .	244, 324	Chang, Hindu harp . . . . .	56
Bugle horn . . . . .	371	„ Persian harp . . . . .	58
Bulgarian tamboura . . . . .	209	„ murchang . . . . .	172
Bulu-pârindu, Malayian . . . . .	200	Chanrares, Peruvian bells . . . . .	80
Bulu-ribut, Malayian . . . . .	200	Chanter, of the bagpipe . . . . .	231
Buni, ancient Egyptian harp . . . . .	11	Chanterelle of the lute . . . . .	321
Bunibulum, mediæval . . . . .	111	Cha-pan, Chinefe . . . . .	190
Burmese bells . . . . .	300, 314	Charles II., king, harp stated to have belonged to him . . . . .	239
„ drums . . . . .	175	„ flute stated to have be- longed to him . . . . .	373
„ stringed instruments . . . . .	173, 295	Chatzozerah, Hebrew . . . . .	32
„ trumpets . . . . .	295	Chaunk, Thibet . . . . .	134
„ violin . . . . .	313	Chayna, ancient Mexican . . . . .	69
Burney, his account of the serpent . . . . .	320	Chê, Chinefe . . . . .	53
Bûro, Negro trumpet . . . . .	153	Chedeville, joueur de mufette . . . . .	231, 235
Busby on the dital harp . . . . .	327	Cheeplayo, Indian . . . . .	171
		Chelys, ancient Grecian . . . . .	36, 41
		Cheng, ancient Chinefe . . . . .	53
		„ modern „ . . . . .	5, 186
		Chhilchiles, ancient Peruvian . . . . .	79
		Chifonie, mediæval . . . . .	104
		Chihikong, Hindu . . . . .	314
		Chikarah, „ . . . . .	164, 314
		Chinefe bells . . . . .	48, 300, 313
		„ castanets . . . . .	190
		„ cymbals . . . . .	194
		„ fiddle . . . . .	57, 178, 313
		„ instruments, ancient . . . . .	46
		„ „ modern . . . . .	178-194
		„ „ of stones . . . . .	46
		„ musical academy . . . . .	85
		„ „ myths . . . . .	46

C.

Cachua, Peruvian dance . . . . .	86
Caix d'Herveloix, viola da gamba player . . . . .	262
Calamus, ancient Roman . . . . .	43, 117, 226
Cambodian, ancient sculptures of musical instruments . . . . .	53
Campanile . . . . .	128
Campion, François . . . . .	241
Capistrum, ancient Roman . . . . .	43
Capo-tafto . . . . .	328, 330
Caribi Indians, their flutes . . . . .	305



	Page		Page
Chinese musical scale . . . . .	53, 86	Conch-trumpet, Chinese . . . . .	186
Chiriqui Indians, their flutes . . . . .	66	,,    Roman . . . . .	45
Chitarra, Italian . . . . .	253	,,    from Thibet . . . . .	134
Chitarrone, Italian . . . . .	243, 244, 324	Concliffe, metronome maker . . . . .	377
Chiterna, German . . . . .	247, 325	Confucius, his love for music . . . . .	46, 50
Choismia, ancient Peruvian . . . . .	74	Contrabasso . . . . .	267
Choron, mediæval . . . . .	105	Contra-fagotto . . . . .	227
Chorus, mediæval . . . . .	105	Contre-basse . . . . .	267
Chromatic harmonium . . . . .	302	Copts, their dulcimer . . . . .	205
,,    pianoforte . . . . .	302	Cor Anglais . . . . .	225, 373
Chromatifiche harfe . . . . .	291	Cor de Chasse . . . . .	371
Chrotta, mediæval . . . . .	96, 99	Corelli-bow . . . . .	342
Cilicia, ancient bagpipe of . . . . .	32	Cormorne, instrument . . . . .	373
Cimbal . . . . .	223	Cornamufa, bagpipe . . . . .	214
Cimbalo, Italian . . . . .	223	,,    in the Liceo Comunale di	
Cionar cruit, Irish . . . . .	98	Musica, Bologna . . . . .	378
Circaffian violin . . . . .	203	Cornemuse, French . . . . .	214
Cistre, French . . . . .	369	Cornepipe, Scotch . . . . .	293
Cithara, ancient Roman . . . . .	41	Cornet à bouquin, French . . . . .	230
,,    mediæval . . . . .	90, 92	Cornettino, Italian . . . . .	292
,,    Portuguese . . . . .	330	Cornetto curvo, Italian . . . . .	229, 292
,,    bijuga . . . . .	330	,,    diritto, Italian . . . . .	292
Cither . . . . .	255, 328	Cornicyll, Welsh instrument . . . . .	293
,,    English . . . . .	330	Corno da caccia . . . . .	371
,,    German . . . . .	329	Corno, Inglese . . . . .	225
,,    Italian . . . . .	257, 369	Cornu, Etruscan and Roman . . . . .	40, 44, 105
Cither-viol . . . . .	343	Corthol, kind of bassoon . . . . .	227
Citola albordada, Spanish . . . . .	117	Costaro, lute maker . . . . .	244
Citole, mediæval . . . . .	93	Cottage harmonium . . . . .	302
Cittern, cither . . . . .	255, 328	Cottier, instrument maker . . . . .	373
Clang-tint . . . . .	121	Counter-tenor-viol . . . . .	338
Clarín, Mexican . . . . .	73	Courtaut, French . . . . .	227
Clarinet, clarionet . . . . .	226	Cqueppa, ancient Peruvian . . . . .	74
Clarion . . . . .	117	Cqueppacamayo, ancient Peruvian . . . . .	83
Clarfeth, Irish harp . . . . .	240	Crang, instrument maker . . . . .	376
Claufs, instrument maker . . . . .	258	Crepitaculum, ancient Roman . . . . .	45
Clavecin, harpfichord . . . . .	276	Cristofali, supposed inventor of the	
,,    vertical . . . . .	351	pianoforte . . . . .	357
Clavicembalo . . . . .	276	Crotala, ancient Roman . . . . .	45
,,    in the Special Exhibi-		Crout, French . . . . .	99
tion . . . . .	351	Crowd, English . . . . .	99
Clavichord . . . . .	274*	Crusmata, ancient Roman . . . . .	45
,,    in the Special Exhibition	355	Crwth, Welsh . . . . .	98, 99, 294
Clavier, German . . . . .	274	Curfew . . . . .	129
Clavicybalum perfectum . . . . .	378	Curtall, English . . . . .	227
Clavicytherium . . . . .	223, 351	Cuyvi, ancient Mexican pipe . . . . .	69
Claviorganum . . . . .	375	Cymbals, Assyrian . . . . .	25
Clays von Pommerbach, lute maker	244	,,    ancient Egyptian . . . . .	21
Clementi and Co., harp-guitar . . . . .	327	,,    ancient Grecian . . . . .	39
Coins, Hebrew, with the lyre . . . . .	28	,,    Chinese . . . . .	194
Combinations of instruments . . . . .	133	,,    Hebrew . . . . .	33
Concertina . . . . .	301	,,    Turkish . . . . .	207
Conch-trumpet, American . . . . .	72	Cymbalum, mediæval . . . . .	111

	Page
Cythera, mediæval . . . . .	257
Cythorn, cither . . . . .	328

D.

Dahomey, musical bands in . . . . .	137
Daïko, Japanese drum . . . . .	197, 299
Daira, tambourine . . . . .	215
Dalyell, Sir J. G., on the viola d'amore . . . . .	340
Damaras, their primitive musical in- strument . . . . .	5
Dances, ancient, of America . . . . .	84
Dancing rattles, American Indian . . . . .	305
Daniel, Book of, musical instruments mentioned in . . . . .	26, 27
Darabouka, drum, ancient Egyptian . . . . .	20
"    "    modern . . . . .	146, 147
"    "    from Morocco . . . . .	298
Darabukkeh . . . . .	146
Darubiri, New Guinea . . . . .	172
Davidsharfe, German . . . . .	367
Dayra, Hindu . . . . .	170
Denis, on the mandoline . . . . .	248
Denner, inventor of the clarinet . . . . .	226
Derbouka, darabouka . . . . .	298
Dervishes, their zikrs . . . . .	145
Diaulos, ancient Grecian . . . . .	39
Dieffoprughar, lute maker . . . . .	322, 377
Diff, hand-drum . . . . .	32
Dital harp . . . . .	251, 327
Dizi, harp maker . . . . .	290
Do, Hindu tambourine . . . . .	170
Dodd, violin-bow maker . . . . .	261
Doff, drum . . . . .	32
Dolciano, bassoon . . . . .	227, 373
Dordogne, prehistoric whistles from . . . . .	9
Double-action harp . . . . .	238
Double-bafs . . . . .	267
Double-baffes in the Special Exhibi- tion . . . . .	365
Double bassoon . . . . .	227
Double flageolet, English . . . . .	225, 317
Double flute, mediæval . . . . .	106
Double harp-guitar . . . . .	251
Double mouvement, Erard's invention . . . . .	237
Double pipe, Assyrian . . . . .	25
"    ancient Egyptian . . . . .	19
"    modern Egyptian . . . . .	143
"    Grecian . . . . .	39
"    Hebrew . . . . .	30

	Page
Double pipe, Roman . . . . .	43
"    Sardinian . . . . .	46
Dragonetti, virtuoso on the double- bafs . . . . .	268
Dramatic performances, sacred, in Peru . . . . .	88
Dremla, Polish . . . . .	172
Drilbu, Buddhist hand-bell . . . . .	301
Drone, bourdon . . . . .	266
Drones of the bagpipe . . . . .	231
Drone-pipes of the Hindus . . . . .	168
Drums, Assyrian . . . . .	25
"    Chinese . . . . .	51, 188
"    ancient Egyptian . . . . .	19, 20
"    modern Egyptian . . . . .	144
"    Hebrew . . . . .	32
"    Hindu . . . . .	315
"    Japanese . . . . .	197
"    from Morocco . . . . .	298, 299
"    negro . . . . .	146, 307
"    English . . . . .	301.
"    of the American Indians . . . . .	76
Dudelsack, German . . . . .	214
Duduk, flageolet . . . . .	212
Dudy, Polish . . . . .	214
Duff, Hindu tambourine . . . . .	170
Duffdé, Hindu . . . . .	170
Duiffoprugcar, violin maker . . . . .	322, 362
Duke, violin maker . . . . .	366
Dulcian, dolciano . . . . .	227, 373
Dulcimer . . . . .	235, 344
"    Assyrian . . . . .	23
"    Egyptian . . . . .	205
"    English . . . . .	344, 370
"    Georgian . . . . .	204
"    Hebrew . . . . .	27
"    Turkish . . . . .	205
"    constructed by Hebenstreit . . . . .	358
Dunstan, Archbishop of Canterbury, reputed inventor of the Æolian harp . . . . .	200
Dutka, Wallachian . . . . .	220

E.

Ebn Soreidsch, Arabian lute player . . . . .	60
Echelette, French . . . . .	316
Egelric, abbot of Croyland . . . . .	131
Egyptian, ancient, instruments . . . . .	6
"    "    bells . . . . .	19, 21
"    "    castanets . . . . .	19

	Page		Page
Egyptian, ancient, cymbals . . . . .	20	Etruscan flutes . . . . .	40
„ „ drums . . . . .	19, 20	„ horn . . . . .	40
„ „ flutes . . . . .	18, 19	„ water-organ . . . . .	40
„ „ harps . . . . .	11	Euphonic, pianoforte . . . . .	303
„ „ gongs . . . . .	19	European instruments, of the Middle Ages . . . . .	89
„ „ lyres . . . . .	14	„ „ post-mediæval . . . . .	119
„ „ tambourines . . . . .	19	Eustachio, inventor of a triple harp . . . . .	292
„ „ trigonon . . . . .	14	Evans, Richard, Welsh instrument maker . . . . .	294
„ „ trumpets . . . . .	19	Evelyn, his notice of the lute . . . . .	244
„ „ sistrum . . . . .	21, 141	„ „ of the viola d'amore . . . . .	340
„ „ stringed instruments . . . . .	11		
„ „ flute concert . . . . .	18	F.	
„ „ military band . . . . .	19	Fagotto, bassoon . . . . .	227
„ „ noffe . . . . .	17	„ piccolo . . . . .	227
„ modern stringed instruments . . . . .	142	Fagott, German . . . . .	227
„ „ bagpipe . . . . .	214	Fang-hiang, Chinese . . . . .	50
„ „ drums . . . . .	144, 145	Farunt, supposed inventor of the lyra- viol . . . . .	266
„ „ flutes . . . . .	143	Father Smith, organ builder . . . . .	374
Ehe, trumpet maker . . . . .	371	Fichthold, lute maker . . . . .	244
Eifenvioline, nail-violin . . . . .	268	Fidis, ancient Roman . . . . .	41
E-korro, negro instrument . . . . .	151	Fiddle, Abyssinian . . . . .	309
Elizabeth, Queen, musical instruments of her time . . . . .	304	„ Anglo-Saxon . . . . .	101
„ „ her poliphant . . . . .	331	„ Chinese . . . . .	178
„ „ her violin . . . . .	287	„ early English representations of it . . . . .	101
„ „ her virginal . . . . .	349	„ early German . . . . .	101
„ „ her musical accom- plishments . . . . .	270, 331	„ Hindu . . . . .	164, 314
Elliot, John, his hymns . . . . .	88	„ Persian . . . . .	309
El-oud, Arabian lute . . . . .	60	„ Welsh . . . . .	293
Embuchi, African trumpet . . . . .	154	Fidla, Norwegian . . . . .	254
English bagpipe . . . . .	215, 373	Figella, viol . . . . .	100
„ bells . . . . .	127	Finnish kantele . . . . .	96
„ bell-harp . . . . .	332	Fistula, ancient Roman . . . . .	44
„ flageolet . . . . .	225, 317	Fithele, Anglo-Saxon fiddle . . . . .	259
„ harpsichord . . . . .	277, 352	Flageolet, English . . . . .	225, 317
„ lute . . . . .	321	„ Hindu . . . . .	164
„ organ . . . . .	108, 284, 374	„ Persian . . . . .	159
„ small cither . . . . .	330	„ Turkish . . . . .	212
„ spinet . . . . .	290, 350	„ Wallachian . . . . .	220
„ trumpet . . . . .	371, 372	„ in the Special Exhibition . . . . .	372
„ virginal . . . . .	270, 271, 349	Flauto dolce . . . . .	224
„ viols . . . . .	336, 338, 340	Flügel, German . . . . .	222, 277
„ viol makers . . . . .	366	Flute, Arabian . . . . .	63
„ instruments in the Special Exhibition . . . . .	349-352, 359-372	„ Assyrian . . . . .	25
English horn . . . . .	225, 373	„ Chinese . . . . .	52
Epigonion, ancient Grecian . . . . .	38	„ Egyptian, ancient . . . . .	17
Epinette, spinet . . . . .	274, 351	„ Etruscan . . . . .	40
Erard, S., pianoforte maker . . . . .	352		
Erard's pedal-harp . . . . .	237		
Erzlaute, German . . . . .	246		
Ethnology and national music . . . . .	6		



	Page
Flute, Grecian, ancient . . . . .	38
„ of Krishna . . . . .	54, 165
„ mediæval . . . . .	106
„ Mexican . . . . .	68
„ from Morocco . . . . .	298
„ Peruvian . . . . .	69
„ Wallachian . . . . .	220
Flûte d'Angleterre . . . . .	225
Flûte à bec . . . . .	224, 318, 372
Flûte douce . . . . .	224
Flûte traversière . . . . .	225
Flutes in the Special Exhibition . . . . .	372
„ tenor and bass . . . . .	318
„ ancient Egyptian concert of . . . . .	17
Flute-cimbal . . . . .	345
Foresters' horns . . . . .	229, 372
Forster, S. A., on the viola da gamba . . . . .	336
„ W., violin maker . . . . .	366
Fouchetti, on the mandoline . . . . .	248
France, prehistoric relics from . . . . .	10
Frank, Ch., trumpet maker . . . . .	371
Franklin, inventor of the glass-harmonica . . . . .	232
Franz, Karl, virtuoso on the viola di bardone . . . . .	265
Free reed in wind instruments . . . . .	5
French instruments 231, 233, 278, 326, 341	
Frestele, mediæval . . . . .	106
Fretiau, mediæval . . . . .	106
Frey, Hans, lute maker . . . . .	244, 377

G.

Gamâlan, Javanese . . . . .	135
Gand, Abyssinian trumpet . . . . .	153
Ganefa, Hindu deity . . . . .	54
Gangurih, trumpet of the Kalmucks . . . . .	296
Gardiner, W., his account of a huge double bass . . . . .	268
Gaspar di Salo, double-basses by 268, 365	
Gendang boeloe, Sumatra . . . . .	306
George III., King, his harpsichord . . . . .	283
Georgian dulcimer . . . . .	204
Gerader Zinken, German . . . . .	292
Gerbert, Martinus . . . . .	90
Gerle, Hans, lutenist . . . . .	241, 244
German bagpipe . . . . .	214
„ dulcimer . . . . .	235
„ flute . . . . .	225
„ gross-cither . . . . .	330
„ harpanetta . . . . .	367

	Page
German organ . . . . .	374
„ trumpet . . . . .	371
Ghaïda, Turkish . . . . .	214
Ghenta, Abyssinian . . . . .	153
Ghirif, Turkish . . . . .	212
Ghittern, guitar . . . . .	253
Ghunta, Hindu bell . . . . .	129
Gipsy bands, musical . . . . .	217, 236
Gittern, guitar . . . . .	253
Gittith, Hebrew . . . . .	33
Gittron, small guitar . . . . .	334
Glass harmonica . . . . .	232
Glover, Miss, her Sol-fa harmonicon . . . . .	302
Goldt, H., lute maker . . . . .	247, 323
Gong, tam-tam . . . . .	128
„ Burmese . . . . .	299
„ Chinese . . . . .	191, 300
„ Japanese . . . . .	198
„ supposed ancient Mexican . . . . .	87
Goto, Japanese . . . . .	197
Gragnani, Antonius, viol maker . . . . .	342
Grassineau on the bell-harp . . . . .	332
„ on the dulcimer . . . . .	370
„ on the harpsichord . . . . .	277
Gravicymbalum . . . . .	223
Grecian, ancient, castanets . . . . .	39
„ cymbals . . . . .	39
„ double pipe . . . . .	39
„ flute . . . . .	39
„ hand-drum . . . . .	39
„ harp . . . . .	35
„ hydraulos . . . . .	40
„ lyre . . . . .	35
„ syrinx . . . . .	39
„ trumpet . . . . .	39
„ various stringed instruments . . . . .	38
Griesser, violin maker . . . . .	377
Grosjean, instrument maker . . . . .	251
Gross-cither, German . . . . .	330
Grosse bass-geige . . . . .	267
Guarnerius, violin maker . . . . .	260
„ his violins in the Special Exhibition . . . . .	363
Guido d'Arezzo, supposed inventor of stringed instruments with a keyboard . . . . .	278
Guillaume, inventor of the Serpent . . . . .	319
Guimbarde, French . . . . .	172
Guitar . . . . .	253, 254
Guitare, French . . . . .	253, 254, 325
Guitarra, Spanish . . . . .	253, 254
Guitar-lyre, English . . . . .	326
Gunibry, Morocco . . . . .	299, 306, 307

	Page		Page
Gytârah barbaryeh . . . . .	149	Harpfichord, strings of the . . . . .	353
Gythorn, guitar . . . . .	253, 254	„ machine for tuning it . . . . .	345
<b>H.</b>			
Haas, W., trumpet maker . . . . .	371	Harpfichords in the Special Exhibi- tion . . . . .	351
Hackbret, German . . . . .	235	Harpu, Finnish . . . . .	96
Hailli, Inca Peruvian . . . . .	87	Harp-theorbo . . . . .	327
Halbmond, German . . . . .	376	Harp-ventura . . . . .	328
Hammers for the dulcimer . . . . .	236, 358	Hartung, lute maker . . . . .	244
Hand-bell, German . . . . .	292	Haskin, his organ-accordion . . . . .	301
„ Indian . . . . .	301	Hautboy . . . . .	226
Handel, on the clavichord . . . . .	356	Haute-contre, viol . . . . .	341
„ instruments in the Special Exhibition stated to have belonged to him :		Haydn, J., his compositions for the viola di bardone . . . . .	265
Clavichord . . . . .	355	Heang-teih, Chinefe . . . . .	184
Harpfichord . . . . .	279	Hebenfreit, dulcimer player . . . . .	358
Organ . . . . .	375	Hebrew, instruments . . . . .	6
Tuning-fork . . . . .	377	„ bagpipe . . . . .	31
Viola . . . . .	364	„ bells . . . . .	33
Hanumunta ottu, Hindu . . . . .	168	„ cymbals . . . . .	33
Haravi, Inca Peruvian . . . . .	84	„ double pipe . . . . .	30
Harmonicon, Chinefe . . . . .	46	„ drum . . . . .	32
„ Siamefe . . . . .	316	„ dulcimer . . . . .	27
Harmonium . . . . .	302	„ harp . . . . .	27
Harp, Assyrian . . . . .	21	„ lyre . . . . .	27
„ ancient Egyptian . . . . .	11	„ orchestra . . . . .	137
„ Finnish . . . . .	96	„ pipe . . . . .	30
„ Hebrew . . . . .	27	„ tamboura . . . . .	30
„ Hindu . . . . .	56	„ trumpet . . . . .	32
„ Persian . . . . .	58	„ sistrum . . . . .	33
„ Turkish . . . . .	59	„ syrinx . . . . .	31
„ French . . . . .	236	Heem, Burmefe . . . . .	187
„ German . . . . .	237	Henry VIII., king, his musical instru- ments . . . . .	318, 334, 351
„ of the Offetes . . . . .	202	Hermes, Mercury . . . . .	39, 54
„ Welsh . . . . .	291	Herrauou, Madagascar . . . . .	162
„ Irish . . . . .	94, 95, 240	Herveloix, viola da gamba player . . . . .	262
„ of Brian Boiroimhe . . . . .	239	Hiang-che, Chinefe . . . . .	48
„ Anglo-Saxon . . . . .	93	Hindu instruments, ancient . . . . .	53
„ English . . . . .	239	„ „ modern 159-173, 296, 314	
„ Caucasian . . . . .	202	„ mountain horn . . . . .	218
„ its primitive construction . . . . .	5	Hitchcock, Thomas, spinet maker . . . . .	276, 351
„ invention of . . . . .	54	Hiuen, Chinefe instrument . . . . .	52
„ by Dizi . . . . .	290	Hiuen-tchung, Chinefe bell . . . . .	49, 313
Harpanetta . . . . .	367	Hochbrucker's pedal harp . . . . .	237
Harp-guitar . . . . .	326, 327	Hoffheimer, organ builder . . . . .	374
„ double . . . . .	251	Hoffmann, lute maker . . . . .	244
Harp-lute . . . . .	250	Holar cha foor, Hindu . . . . .	168
Harpfichord, English . . . . .	279	Holmos of the tibia . . . . .	44
„ Handel's . . . . .	297	Holtzapsel, flute maker . . . . .	372
		Hora, Wallachian . . . . .	217
		Horn, cornu . . . . .	320
		„ bugle . . . . .	371
		„ Grecian, ancient . . . . .	39

	Page
Horn, Hebrew . . . . .	32
„ of herdsmen, Roumania . . . . .	217
Hornpipe, Scotch . . . . .	373
„ Welsh . . . . .	293
Hottemann, theorbo player . . . . .	242
Huanca, ancient Peruvian . . . . .	79
Huancarcamayo, ancient Peruvian . . . . .	83
Huayllaca, ancient Mexican . . . . .	69
Huayra-puhura, Peruvian sŷrinx . . . . .	69
Hucbald, his consecutive fifths . . . . .	234
Huehuetl, of the Aztecs . . . . .	79
Hulkyā, Hindoo tambourine . . . . .	170
Hummel, Matthæus, lute maker . . . . .	244
Hunting horn . . . . .	228, 292
Hurdy-gurdy . . . . .	233.
„ organistrum . . . . .	102
Hwang-teih, Chinese . . . . .	185
Hydraulic organ . . . . .	40, 108
Hyraulos, water-flute . . . . .	40
Hymns, American Indian . . . . .	88
„ ancient Peruvian . . . . .	84

I.

Ibaca, Negro instrument . . . . .	297
Inca Peruvians, their flutes . . . . .	69
Indian instruments, ancient . . . . .	53
„ „ modern . . . . .	159
„ „ in the Special Exhibition . . . . .	378
Indian, American, instruments . . . . .	65
Ingomba, Negro drum . . . . .	307
Instruments, musical, classified . . . . .	2
„ „ their various qualities of sound . . . . .	121
Instruments introduced from Asia into Europe . . . . .	45
Instruments in the Special Exhibition . . . . .	348
Instruments, Abyssinian 146, 149, 153, 309	
„ African . . . . .	141
„ Arabian . . . . .	57
„ Asiatic . . . . .	157
„ Assyrian . . . . .	6
„ Burmese . . . . .	173, 295, 313
„ Caucasian . . . . .	202
„ Chinese, ancient . . . . .	46
„ Chinese, modern . . . . .	178
„ Egyptian, ancient . . . . .	6
„ Egyptian, modern . . . . .	142
„ English . . . . .	349, 366
„ Etruscan . . . . .	40

	Page
Instruments, French . 231, 233, 278, 326	
„ German . 330, 367, 371, 374	
„ Grecian, ancient . . . . .	34
„ Hebrew . . . . .	6, 27
„ Hindu . . . . .	53, 159
„ Irish . . . . .	239, 367, 370
„ Italian . . . . .	324, 341, 359
„ Japanese . . . . .	194, 299, 310
„ Mediæval . . . . .	89
„ Mexican, ancient . . . . .	65, 285
„ Negro . . . . .	141, 307
„ Nubian . . . . .	148
„ Persian . . . . .	57, 157
„ Peruvian, ancient . . . . .	79
„ Pre-historic . . . . .	9
„ Roman . . . . .	41
„ Roumanian . . . . .	217
„ Russian . 125, 127, 204, 214	
„ Scotch . . . . .	86, 373, 374
„ Siamese . . . . .	174, 316
„ Turkish . 205, 207, 209, 212	
„ Wallachian . . . . .	217
„ Welsh . 214, 291, 293, 294	
Instrumentation, antiquated . 136, 245, 246	
„ modern . . . . .	133
Irish harp . . . . .	239, 240, 367
„ bronze trumpet . . . . .	370
Italian instruments . . . . .	224, 241, 359

J.

Jagdhorn, German . . . . .	371
Jaina, Peruvian . . . . .	69
Jalar, Hindu . . . . .	170
Jamato-goto, Japanese . . . . .	197
Janiffary music . . . . .	208, 376
Jantar, Hindu . . . . .	162
Japanese instruments . 194-201, 299, 310	
Jars, sound-producing, of the Inca Peruvians . . . . .	75
Jay, Henry, viol maker . . . . .	338, 366
Jew's harp . . . . .	172
Jew's trump . . . . .	172
Jhanj, Hindu cymbals . . . . .	171
Jobel, Hebrew . . . . .	33
Jones, Edward, his Welsh harp music . . . . .	291
„ „ his account of the Welsh hornpipe . . . . .	293
Jubal, inventor of Hebrew musical instruments . . . . .	28, 33
Judenkunig, on the lute . . . . .	241



	Page		Page
Junk, Arabian . . . . .	59	Komboo, Hindu . . . . .	169
Juruparis, American Indian . . . . .	72	Kofa, Ruffian . . . . .	214
<b>K.</b>			
Kadábbah, Egyptian . . . . .	145	Koto, Japanefe . . . . .	197
Kamancha . . . . .	164	Kou, Chinefe . . . . .	51, 188, 189
Kamfa, Nepaulefe . . . . .	169	Krämer, clavichord maker . . . . .	275
Kanoon, Arabian . . . . .	61	Kratzenstein, organ builder . . . . .	4
„ Egyptian . . . . .	60	Krishna, Hindu deity . . . . .	54, 165
„ Turkish . . . . .	208	Krotala, ancient Grecian . . . . .	39
Kantele, Finnish . . . . .	54, 96	Krummer Zinken, German . . . . .	292
Kargel, Sixtus, on the guitar . . . . .	253	Krummhorn, German . . . . .	373
Karlino, Joan, of Brefcia . . . . .	363	Kuitra, Arabian guitar . . . . .	253, 307
Kashmeer, instrument from . . . . .	164	Kurna, Hindu trumpet . . . . .	169, 296
Kaffangah, Negro instrument . . . . .	297	Kurtar, Hindoo castanets . . . . .	171
Kaffo, Negro instrument . . . . .	308	Kyee-wain, Burmefe . . . . .	177
Keen, Stephen, virginal maker . . . . .	271	Kymbala, ancient Grecian . . . . .	39
Kelly, John, Irish harp maker . . . . .	240	<b>L.</b>	
Kemangeh, Perfian . . . . .	157	Lancafhire bell-ringers . . . . .	130
„ Turkish . . . . .	210	Langfpjel, Icelandic . . . . .	259
Kemangeh a' gouz . . . . .	211	Laos organ . . . . .	187
Kemangeh a' gouz, Egyptian . . . . .	310	Laud, Spanifh . . . . .	142
Kemangeh, from Morocco . . . . .	298	Launedda, double pipe . . . . .	46
Kemangeh roumy . . . . .	204	Lautari, Wallachian . . . . .	217
Keou-kin, Chinefe . . . . .	172	Laute, German . . . . .	142
Keras, ancient Grecian . . . . .	39, 105	Lei-kou, Chinefe . . . . .	51
Keren, Hebrew horn . . . . .	32, 105	Leighton, Sir W., his enumeration of mufical instruments . . . . .	285
Kettle-drums . . . . .	64, 133	Lemme, clavichord maker . . . . .	275
„ Egyptian . . . . .	144, 145	Leone, on the mandoline . . . . .	248
Keyed-Cither . . . . .	258	Lerida, on the guitar . . . . .	253
Khew, Burmefe bell . . . . .	314	Le Roy, on the lute . . . . .	241
Kien, Japanefe gong . . . . .	198	Leverfdge, virginal maker . . . . .	271
Kikoakoa, Caucasian bard . . . . .	202	Leyer, German . . . . .	233
Kin, Chinefe . . . . .	53, 182, 312	Liceo Comunale de Mufica at Bo- logna, its ancient mufical instru- ments . . . . .	377
King, Chinefe . . . . .	46	Lidl, viola di bardone player . . . . .	265
Kin-kou, Chinefe . . . . .	51	Liederzither, German . . . . .	259
Kinnor, Hebrew . . . . .	28, 201	Lieffem, cither maker . . . . .	329
Kinyra, ancient Grecian . . . . .	36	Light, instrument maker . . . . .	250, 327
Kircher, Athanafius, on the cither . . . . .	368	Linaro, viola maker . . . . .	363
Kirkman, instrument maker . . . . .	277	Ling-kou, Chinefe . . . . .	51
„ his double harpfichord . . . . .	352	Linterculus, fordino . . . . .	341
Kiffar, Nubian . . . . .	28, 148	Lionedda, double pipe . . . . .	46
Kiffumba, Negro instrument . . . . .	308	Lituus, ancient Roman . . . . .	44
Kit, Englifh . . . . .	261, 360	Lira di braccio . . . . .	114
Kithara, ancient Grecian . . . . .	34, 36, 39	Lira ruftica . . . . .	233
Klavier, German . . . . .	274	Lira tedefca . . . . .	233
Kniegeige, viola da gamba . . . . .	262	Liuto, Italian . . . . .	142, 241
Koan-tfee, Chinefe . . . . .	52	Lizard, Englifh . . . . .	320
Kobero, Abyffinian . . . . .	146		
Kobfa, Wallachian . . . . .	219		

	Page		Page
Lizard, Siamese . . . . .	174	Maidari, musical deity of the Kal-	
Lo, Chinese gong . . . . .	191	mucks . . . . .	53
Lo-tfeih, Chinese . . . . .	192	Malakat, Abyssinian trumpet . . . . .	153
Longman and Broderip's tuning ma-		Maler, Laux, lute maker . . . . .	244, 323
chine . . . . .	345	Mam, ancient Egyptian . . . . .	19
Lokanga, Madagascar . . . . .	151	Mandola, Italian . . . . .	335
Loofemore, virginal maker . . . . .	271	Mandolino, Neapolitan . . . . .	247, 334, 335
Lou-kou, Chinese . . . . .	51	,, Milanese . . . . .	335
Loure, French . . . . .	231	Mandura, mandora . . . . .	249, 335
Lu, musical intervals, Chinese . . . . .	48	Mandurina, mandorina . . . . .	249, 335
Lupot, violin-bow maker . . . . .	261	Mantagnana, Domenico, his Basso di	
Lure, Scandinavian . . . . .	169, 370	Camera in the Special Exhibition . . . . .	365
Lute, Arabian . . . . .	60	Marais, viola da gamba player . . . . .	338
,, ancient Egyptian . . . . .	17	Marcus Jadra, spinet maker . . . . .	275
,, early European . . . . .	119	Marimba, African instrument . . . . .	154, 156
,, English . . . . .	321, 368	,, American . . . . .	89
,, French . . . . .	142	Marine trumpet . . . . .	377
,, German . . . . .	142	Marius, supposed inventor of the	
,, Italian . . . . .	241, 322	pianoforte . . . . .	357
,, Hebrew . . . . .	30	Marouvané, Madagascar . . . . .	306
,, Wallachian . . . . .	219	Marpurg, on the viola di bardone . . . . .	266
,, instruction books for the . . . . .	241	Mattheson, on the lute . . . . .	247
Lute makers . . . . .	244	,, on the viola d'amore . . . . .	340
Luth, French . . . . .	142	Maultrommel, German . . . . .	172
Lyra mendicorum . . . . .	222	Meares, Richard, viol maker . . . . .	336
Lyra-viol . . . . .	266	Mediæval musical instruments . . . . .	89
Lyre, of Hermes . . . . .	307	Megoum, Burmese . . . . .	174
,, Assyrian . . . . .	25	Megyoung, Burmese . . . . .	173
,, Egyptian . . . . .	14	Menaaneim, Hebrew . . . . .	33
,, Grecian . . . . .	36, 39	Merfenne, on the bijuga cither . . . . .	330
,, Hebrew . . . . .	27	Mest, lute maker . . . . .	244
Lyre-guitare, French . . . . .	326	Metronomes in the Special Exhibi-	
		tion . . . . .	377
		Metzilloth, Hebrew . . . . .	33
		Metzilhaim, Hebrew . . . . .	33
		Meuschel, trombone maker . . . . .	371
		Mexican, ancient instruments . . . . .	65
		,, whistles in the Museum . . . . .	285
		Milan, on the guitar . . . . .	253
		Milanese mandoline . . . . .	335
		Milchmayer, harpsichord maker . . . . .	354
		Milioni, on the guitar . . . . .	253
		Miniature violin . . . . .	261
		,, virginal . . . . .	290
		Minnim, Hebrew . . . . .	30
		Minstrels, ancient American . . . . .	83
		Minstrels' Gallery, Exeter Cathedral . . . . .	117
		Mishrokitha, Hebrew . . . . .	30
		Mitotes, ancient Peruvian . . . . .	84
		Modes, musical, of the Hindus . . . . .	71
		,, ,, of the Inca Peruvians . . . . .	71
		Moldavian music . . . . .	217
		Monaulos, ancient Grecian . . . . .	39

M.

Mace, Thomas, on the lute . . . . .	241, 247, 323
,, ,, on viols . . . . .	122
,, ,, on English instrument	
makers . . . . .	366
Machalath, Hebrew . . . . .	30
Machête, Portuguese . . . . .	254, 325
Machol, Hebrew . . . . .	33
Madagascar, instruments from . . . . .	151, 306
Magadis, Grecian . . . . .	34, 38
Magaudi, Hindu . . . . .	57, 166
Maggini, violin maker . . . . .	363
,, his double-basses in the Special	
Exhibition . . . . .	365
Magrepha, Hebrew . . . . .	31
Magum, Negro trumpet . . . . .	153
Mahoon, spinet maker . . . . .	290

	Page		Page
Mondtrommel, Dutch . . . . .	172	Negro trumpets . . . . .	152
Monochord, of the ancients . . . . .	38	,, various instruments . . . . .	141, 307
,, mediæval . . . . .	105	,, instruments in the Special Ex-	
,, for tuning the harpsi-		hibition . . . . .	379
chord . . . . .	345	Nei ambânah, Persian bagpipe . . . . .	58, 214
Montezuma, his orchestra . . . . .	82	Nekeb, Hebrew . . . . .	30
Moon-guitar, Chinese . . . . .	179	Neufiedler, Hans, lute maker . . . . .	244
Moors, their musical instruments . . . . .	63	Nobut, Hindu . . . . .	135
Morrice dance . . . . .	130	Nofre, ancient Egyptian . . . . .	17, 162
Mountain horn . . . . .	217	Norman, Barak, instrument maker . . . . .	361, 366
Mukha, Hindu instrument . . . . .	168	North American Indians, their mu-	
Mukhavinai, Hindu . . . . .	168	sical instruments . . . . .	89
Mundharpe, Danish . . . . .	172	Nofe flutes . . . . .	166, 379
Mungiga, Swedish . . . . .	172	Nubian lyre . . . . .	148
Munjeera, Hindu . . . . .	171	Nursingh, Nepaulese . . . . .	169
Murchang, Hindu . . . . .	172		
Mufetta, Italian . . . . .	214	O.	
Mufette, French . . . . .	214, 231	Oboe, Arabian . . . . .	63
,, players on the . . . . .	234	,, ancient American . . . . .	69
,, compositions for the . . . . .	234	,, kind of, supposed to have been	
Mufettes in the Special Exhibition . . . . .	374	known to the ancient Egyp-	
Musical festivals, ancient Peruvian . . . . .	83	tians . . . . .	17
		,, Grecian, ancient . . . . .	38
N.		,, Chinese . . . . .	184
Nabla, Grecian . . . . .	34	,, Hindu . . . . .	167
Nablum, mediæval . . . . .	92, 112	,, Italian . . . . .	225
Nadermann, harp maker . . . . .	251	,, Wallachian . . . . .	221
Nagarah, Hindu drum . . . . .	315	Oboe d'amore . . . . .	225
Nagassaran, Hindu . . . . .	168	Oboe da caccia . . . . .	225, 373
Nagelclavier . . . . .	268	Oboe luongo . . . . .	225
Nagelgeige, nail-violin . . . . .	268, 343	Oboe piccolo . . . . .	226
Nagel harmonika . . . . .	268, 344	Octavina, spinet . . . . .	270, 271
Nail-harmonica . . . . .	268, 344	Odin, Scandinavian deity . . . . .	54
Nail-violin . . . . .	268, 343	Olifaunt, mediæval . . . . .	228
Nakákeer, kettle-drums . . . . .	145	Oliphant, mediæval . . . . .	107, 227
Nakkárah, drum . . . . .	63, 145	Ollivant . . . . .	228
Nakarzan, Egyptian . . . . .	145	Olyfaunce . . . . .	228
Nanga, Negro harp . . . . .	149	Ombi, Negro harp . . . . .	151
Nareda, inventor of the Vina . . . . .	53, 54, 201	Orchestra, Babylonian . . . . .	27
National music . . . . .	4	,, Burmese . . . . .	133
Nay, flute . . . . .	63, 159	,, Hebrew . . . . .	27, 136
,, its embouchure . . . . .	212	,, Hindu . . . . .	135
Neapolitan mandoline . . . . .	334	,, American, ancient . . . . .	82
Nebel, Hebrew . . . . .	27, 30, 162	,, Italian, sixteenth century . . . . .	245
Nechiloth, Hebrew . . . . .	33	,, Italian, seventeenth century . . . . .	246
Negro musical band . . . . .	137	,, modern, monster . . . . .	136
,, balafo . . . . .	154	Organ . . . . .	108, 283
,, drums . . . . .	146	,, supposed Hebrew . . . . .	30, 31
,, harps . . . . .	149, 151	,, hydraulic . . . . .	40, 108
,, marimba . . . . .	154	,, mediæval . . . . .	108



	Page
Organ portative . . . . .	284
Organ positive . . . . .	283
Organ, serinette . . . . .	283
Organ-accordion . . . . .	301
Organ-harpfichord . . . . .	375
Organ-hurdygurdy . . . . .	345
Organ-piano . . . . .	376
Organ pipes in the Museum . . . . .	303
Organs in the Special Exhibition . . . . .	374
Organistrum, hurdy- gurdy. } . 102, 112, 116, 234	
Organum hydraulicum . . . . .	40
Orpharion, English . . . . .	242, 368
Orpheoreon . . . . .	334
Offetes, their harp . . . . .	202
Ottavino, spinet . . . . .	271
Ottu, Hindu instrument . . . . .	168
Ou, Chinese instrument . . . . .	50
Oud, lute, Arabian . . . . .	60
"    "    Egyptian . . . . .	142
Oukpwé, Negro ivory trumpet . . . . .	154

P.

Pai-fiao, Chinese . . . . .	52
Pamphilon, violin maker . . . . .	366
Pan, Chinese castanets . . . . .	190
Pan, inventor of the syrinx . . . . .	39
Panchama ottu, Hindu . . . . .	168
Pandean pipe, syrinx . . . . .	39
"    "    Chinese . . . . .	52
"    "    Hebrew . . . . .	31
"    "    mediæval . . . . .	106
"    "    Peruvian . . . . .	69
"    "    Roumanian . . . . .	219
Pandora . . . . .	242
Pandore . . . . .	331, 333, 334
Pandoura, ancient Grecian . . . . .	38
Pandura, Italian . . . . .	333
Pandurina, Italian . . . . .	248
Pantalon . . . . .	358
Papanafem-magoudi, Hindu . . . . .	166
Parker, Daniel, violin maker . . . . .	366
Parry's harp, Welsh . . . . .	291
Pat-ma, Burmese . . . . .	175
Patolah, Burmese . . . . .	176
Pattala, Burmese . . . . .	176
Pat-tshaing, Burmese . . . . .	176
Pavillon chinois . . . . .	376
Peal-ringing . . . . .	130
Pedal-harp . . . . .	237
Pektis, Grecian . . . . .	38

	Page
Pemberton, violin maker . . . . .	289
Penorcon . . . . .	334, 368
Pentatonic scale . . . . .	52, 311
Pepa, Chinese . . . . .	53, 180, 311
Pepys, his notice of the flageolet . . . . .	225
"    "    "    virginal . . . . .	270
Peruvian flutes, ancient . . . . .	69
Persian instruments of percussion, ancient . . . . .	57
"    "    modern . . . . .	157
"    "    bagpipe . . . . .	58, 214
"    "    musical scale . . . . .	60
Perry, violin maker . . . . .	343
Peruvian instruments, ancient . . . . .	79
Pfranger, inventor of the chromatische harfe . . . . .	291
Phaamon, Hebrew bells . . . . .	33
Phorbeia, ancient Grecian . . . . .	39
Phorminx, ancient Grecian . . . . .	36
Pianoforte, its origin . . . . .	5, 357
Pianofortes in the Museum . . . . .	302, 303
"    in the Special Exhibition . . . . .	359
Piano-harmonium . . . . .	376
Piao, Chinese bell . . . . .	49
Pibau, Welsh . . . . .	214
Pibgorn, Welsh . . . . .	293
Pien-king, Chinese . . . . .	48
Pien-tchung, Chinese . . . . .	49
Piffaro pastorale . . . . .	226
Pih-pan, Chinese . . . . .	190
Pilai, Finnish . . . . .	214
Pincullu, ancient Mexican flute . . . . .	69
Piob mhor, Scotch bagpipe . . . . .	125, 214
Pipe, Assyrian . . . . .	25
"    Babylonian . . . . .	9, 285
"    Egyptian, ancient . . . . .	17
"    Hebrew . . . . .	30
"    Central American . . . . .	66
"    Mexican . . . . .	65
"    pre-historic . . . . .	9
Pipe and tabor . . . . .	124
Pifador, his instruction book for the vihuela . . . . .	253
Pifalterium of the Copts . . . . .	205
Pito, Mexican . . . . .	67
Piva, bagpipe . . . . .	214
Playford, John, on the cither . . . . .	257
"    "    on the poliphant . . . . .	331
"    "    on the lyra viol . . . . .	266
"    "    on the tenor viol . . . . .	338
"    "    on the viola d'amore . . . . .	340
"    "    on tuning the viol . . . . .	337
Plectra for the Kanoon . . . . .	208

	Page
Plectron, Grecian . . . . .	37
Plectrum, Roman . . . . .	42
„ Assyrian . . . . .	24
„ Chinese . . . . .	51
„ Egyptian . . . . .	15, 42
„ Japanese . . . . .	194, 195
„ for the lute . . . . .	142
„ for the sitar . . . . .	315
Pleyer, spinet maker . . . . .	350
Plochflöte, German . . . . .	224
Pneumatic organ . . . . .	40, 108
Pochette, French . . . . .	261
„ fordino . . . . .	292
„ in the shape of a fish . . . . .	255
Pochettes in the Special Exhibition . . . . .	360
Po-fou, Chinese . . . . .	51
Pohlman, pianoforte maker . . . . .	359
Poliphant . . . . .	331
Polish bagpipe . . . . .	214
Pommer, German . . . . .	226, 373
Pommersbach, Clays von, lute maker . . . . .	244
Ponga, ivory trumpet . . . . .	154
Poongi, Hindu . . . . .	57, 166
Popular songs . . . . .	4
Porgt, lute maker . . . . .	244
Portuguese cithara . . . . .	330
„ guitar . . . . .	253
Posaune, trombone . . . . .	108
Prætorius on the zither . . . . .	330
„ on the Irish harp . . . . .	241
Pre-historic whistles . . . . .	9
Pridgen, metronome maker . . . . .	377
Pfalterion, Greek, ancient . . . . .	27
Pfalterium . . . . .	42
„ mediæval . . . . .	91
„ dulcimer . . . . .	205
Pfaltery, cither-viol . . . . .	341, 343, 361
Pfanterin, Hebrew . . . . .	27

## Q.

Qânon, kanoon . . . . .	208
Qitar, Persian . . . . .	157
Quanz, music master of Frederick the Great . . . . .	266
Quartfagott, German . . . . .	227
Quena, Peruvian . . . . .	69
Quinterna, chiterna . . . . .	247, 325
Quintfagott, German . . . . .	227
Quinton, viol . . . . .	342

## R.

	Page
Rababah, African . . . . .	150
Rabebe, mediæval . . . . .	142
Rabel, Spanish . . . . .	142
Rabé morisco, Spanish . . . . .	117
Ramsinga, Hindu . . . . .	169
Ranat, Siamese . . . . .	316
Rattles of the American Indians,	
ancient . . . . .	79
„ „ „ . . . . .	
modern . . . . .	305
Rauch, Sebastian, lute maker . . . . .	244
Rauche, lute maker . . . . .	243
Raufgler, lute maker . . . . .	244
Ravanastron, Hindu . . . . .	56
Raymi, Inca Peruvian . . . . .	83
Rebab, Arabian . . . . .	62, 142
„ Persian . . . . .	309
„ from Morocco . . . . .	298
Rebab esh-Sha'er, poet's viol . . . . .	211
Rebebe, mediæval . . . . .	142
Rebec, fiddle . . . . .	116, 117, 142
Rebecchino . . . . .	360
Reberbe, mediæval . . . . .	142
Rebesbe, mediæval . . . . .	142
Rebula, rebec . . . . .	100
Rebute, French . . . . .	172
Recorder, English . . . . .	122
Reed in the cheng . . . . .	186
„ oboe . . . . .	226
„ poongi . . . . .	166
„ zourna . . . . .	167
Reed wind instruments, ancient	
Egyptian . . . . .	17
Regal, regals . . . . .	109, 284
„ Bibelregal . . . . .	375
Remy, violin maker . . . . .	360
Richards, Welsh harp maker . . . . .	291
Rigols . . . . .	110
Rikk, Egyptian . . . . .	147
Robinson, Thomas, lutenist . . . . .	242
„ „ his book on the cither . . . . .	257
Rochi, Christofilo, lute maker . . . . .	244
„ Sebastian, lute maker . . . . .	244
Roman, ancient musical instruments . . . . .	41
„ hydraulic organ . . . . .	41
Rombouts, instrument maker . . . . .	377
Rose, inventor of the bandoer . . . . .	333
Rofs, viol maker . . . . .	366
Rossi, Antonius, organ builder . . . . .	375
Rosso, Annibal, spinet maker . . . . .	272, 275

	Page		Page
Rota, mediæval . . . . .	104	Saz, Turkish . . . . .	210
Rote . . . . .	222	Scabillum, Roman . . . . .	45
Rotta . . . . .	96	Scale, Arabian . . . . .	60
Roumania, music of . . . . .	217	„ Chinese . . . . .	52
Ruckers, harpichord makers . . . . .	278	„ Hindu . . . . .	56
„ instruments in the Museum 279, 283		„ pentatonic . . . . .	52
Ruggeri, violin maker . . . . .	363	Schalmey, German . . . . .	117, 226
Ruiz de Ribayaz, on the guitar . . . . .	253	Scheidholt, German . . . . .	331
Ruffian bagpipe . . . . .	214	Schelle, lute maker . . . . .	244
„ bells . . . . .	127	Schellenbaum, German . . . . .	376
„ horn band . . . . .	66	Schlagzither, German . . . . .	258
„ violin . . . . .	204	Schmidt, Bernhard, organ builder . . . . .	374
		Schnitzer, instrument maker . . . . .	227
		Scholar's lute, Chinese . . . . .	182, 312
		Schott, lute maker . . . . .	244
		Schröter, supposed inventor of the	
		pianoforte . . . . .	357
		Schwegel, German . . . . .	124
		Sconvelt, Nicholas, lute maker . . . . .	244
		Scotch bagpipe . . . . .	125, 214
		„ bagpipes in the Special Exhi-	
		bition . . . . .	374
		„ harp . . . . .	367
		„ hornpipe . . . . .	373
		„ stockhorn . . . . .	373
		„ tunes . . . . .	86
		Sculptures of musical in-	
		struments . . . . .	11, 21, 102, 112
		Sculptures of mediæval or-	
		chestras . . . . .	113, 115, 118
		Seaou, Chinese . . . . .	183
		Seaou-po, Chinese . . . . .	194
		Sêbi, ancient Egyptian . . . . .	17
		Seeng, Hindu . . . . .	169
		Sein, Burmese . . . . .	177
		Sellas, Matteo, lute maker . . . . .	243, 377
		Senal, player on the nail-violin . . . . .	268
		Serinetto, bird organ . . . . .	283
		Serpent, English . . . . .	319
		„ French . . . . .	320
		Sesheh, ancient Egyptian . . . . .	21, 141
		Shah-Kuli, Persian musician . . . . .	207
		Shakespeare, his allusion to the bag-	
		pipe . . . . .	215
		„ „ „ cor-	
		netto curvo . . . . .	292
		„ „ „ viola	
		di gamba . . . . .	262
		Shalifhim, Hebrew . . . . .	33
		Shalm, oboe . . . . .	117, 226
		Shaw, trumpet maker . . . . .	372
		Shawm, mediæval . . . . .	117, 226
		Shena, Hindu . . . . .	87, 168

S.

Sackbut, mediæval . . . . .	108
Sackpfeife, German . . . . .	214
Sacqueboute, trombone . . . . .	108
Sacred dramas in Peru . . . . .	88
Saib Chatir, Arabian lute player . . . . .	60
Sainpra, Jaques . . . . .	266
Sakafaka, rattle . . . . .	306
Salpins, Grecian . . . . .	39
Salter, on the recorder . . . . .	122
Salterio, Italian . . . . .	344
Salterio tedesco . . . . .	235
Sambuca, Roman . . . . .	42, 108
Sambuka, Grecian . . . . .	34
Sambyke, Grecian . . . . .	38
Sampuris, snake charmers . . . . .	57, 166
Samfien, Japanese . . . . .	310
Sanafel, Abyssinian . . . . .	141
Sancho, African . . . . .	308
Sanctus bell . . . . .	129
Sanctus Seraphino, violin maker . . . . .	364
Sang, Chinese . . . . .	187
San-heen, Chinese . . . . .	181, 311
Sanfa, Negro instrument . . . . .	297
Santiago da Compostella, sculpture	
from . . . . .	115
Santir, Arabian . . . . .	27, 61
„ Egyptian . . . . .	205
„ Georgian . . . . .	204
„ Persian . . . . .	62
„ Turkish . . . . .	205
Saquebutte, trombone . . . . .	108
Sarafwati, Hindu goddesses of music . . . . .	53
Sarinda, Hindu . . . . .	164, 314
Sar mundal, Hindu . . . . .	205
Sarungi, Hindu . . . . .	315
Saun, Burmese . . . . .	174



	Page		Page
Shing, Burmese . . . . .	177	Special Exhibition, harps, lutes, guitars, cithers, dulcimers, &c. . . . .	366
Sho'ara, bards . . . . .	211	"    "    trumpets, horns, and similar wind instruments . . . . .	370
Shophar, Hebrew . . . . .	32	"    "    flutes, oboes, and similar wind instruments . . . . .	372
Shudi, instrument maker . . . . .	277, 352	"    "    organs and other instruments containing organ pipes or tongues of metal . . . . .	374
Siamese harmonicon . . . . .	316	"    "    miscellaneous instruments . . . . .	376
"    stringed instrument . . . . .	174	"    "    Ethnological section . . . . .	378
Siao, Chinese . . . . .	52, 183	Spinet . . . . .	272-276
Silberman, instrument maker, his cembal d'amour . . . . .	357	"    English . . . . .	290
"    his organs . . . . .	284	Spinets in the Special Exhibition . . . . .	350
"    his pianofortes . . . . .	358	Spitzharfe, arpanetta . . . . .	367
Simbing, Negro instrument . . . . .	151	Square pianoforte . . . . .	359
Simcock, maker of the bell-harp . . . . .	332	Square spinet, virginal . . . . .	269, 349
Sime-da'iko, Japanese . . . . .	197	Sruti, musical intervals of the Hindus . . . . .	56
Simmikon, Grecian . . . . .	38	Stainer, J., violin maker . . . . .	260
Simpson, his Division-Violist . . . . .	263, 337	"    his instruments in the Special Exhibition . . . . .	363, 364
Sine Keman, Turkish . . . . .	204	Stanesby, wind instrument maker . . . . .	372, 373
Singee, Hindu . . . . .	169	Stark, trumpet maker . . . . .	371
Single corthol, English . . . . .	227	Stegher, lute maker . . . . .	377
Sistre, cither . . . . .	369	Steiniche, spinet maker . . . . .	350
Sistrum, ancient Egyptian . . . . .	21, 141	Steward, John, his pianoforte . . . . .	303
"    "    Hebrew . . . . .	33	Stock-horn, Scotch . . . . .	373
"    "    Roman . . . . .	45	Stones, sonorous, American . . . . .	81
Sitar, Hindu . . . . .	315	"    "    Chinese . . . . .	47
"    Persian . . . . .	257	"    "    European . . . . .	48
Situa, Inca Peruvian . . . . .	83	Stradiuarius, violin maker . . . . .	260
Skruibka, Russian . . . . .	204	"    his violins in the Special Exhibition . . . . .	362, 363
Smith, Handel's amanuensis . . . . .	279	"    his violoncellos in the Special Exhibition . . . . .	364
"    "    "    "    "    organ builder . . . . .	374	"    double-bass by . . . . .	268
"    "    "    "    "    viol maker . . . . .	366	Streichzither, German . . . . .	259, 343
Snake charmer's flute, Hindu . . . . .	166	Strings, various kinds . . . . .	1
Soeligane, Japanese . . . . .	198	"    of the harpfichord . . . . .	353
Sol-fa harmonicon . . . . .	302	Suanets, their harp . . . . .	202
Soma, Hindu musical theorist . . . . .	56	Sultana, pfaltery . . . . .	343
Sordino, or pochette . . . . .	261, 292, 341	Sumphonia, instrument . . . . .	351
"    in the Special Exhibition . . . . .	359	"    Hebrew . . . . .	31
Souffarah, Persian . . . . .	159	Surdelina, Italian . . . . .	231
Sound, various qualities of, on musical instruments . . . . .	121, 133	Surnā'-e, Hindu . . . . .	168
Sound-board, curious method of im- proving it . . . . .	251	Surnay, Arabian . . . . .	63
Soung, Burmese harp . . . . .	174, 295	Suroda, Hindu . . . . .	96
Soung-king, Chinese . . . . .	48	Suryaprabai, Hindu . . . . .	170
Sourdeline, French . . . . .	231	Swiss alphorn . . . . .	320
Soufounou, of Timor . . . . .	306	Sympathetic strings . . . . .	204, 265, 266, 339
Spanish viol . . . . .	116, 253	Symphonia, mediæval . . . . .	104
Spaffa-penziero, Italian . . . . .	172	Syrian drum . . . . .	144
Special Exhibition of ancient musical instruments . . . . .	347		
"    "    stringed instru- ments provided with a key-board . . . . .	349		
"    "    stringed instru- ments played with a bow . . . . .	359		

	Page		Page
Syrinx, Grecian . . . . .	39	Tche, Chinese stringed instrument	182, 312
„ Hebrew . . . . .	31	Tchen, Chinese plectrum . . . . .	51
„ mediæval . . . . .	106	Tchenk, Persian harp . . . . .	58
„ Peruvian . . . . .	70	Tchou, Chinese . . . . .	51
„ Roman . . . . .	44	Tchoung-tou, Chinese . . . . .	50
„ Roumanian . . . . .	219	Tchung, Chinese bell . . . . .	48
Szopelka, Russian . . . . .	221	Tebel, Morocco . . . . .	299
T.			
Tabl, drum, Egyptian . . . . .	146	Techler, violin maker . . . . .	364
„ „ from Morocco . . . . .	299	Telyn, Welsh harp . . . . .	291
„ beledce, Egyptian . . . . .	146	Tenor bassoon . . . . .	227
„ el mufahhir, Egyptian . . . . .	144	„ flute . . . . .	224, 318, 373
„ shamee, Egyptian . . . . .	144	„ viol . . . . .	122
Tabor . . . . .	124	Tenors in the Special Exhibition . . . . .	363
Tackt-i-Bostan, sculptures of . . . . .	58	Teponaztli of the Aztecs . . . . .	76
Taki-goto, Japanese . . . . .	194	Tefínfak, Abyssinian . . . . .	153
Tal, Hindu . . . . .	170	Testudo, Roman . . . . .	41
Tamboura, Arabian . . . . .	60	Testudo theorbata . . . . .	321
„ Assyrian . . . . .	25	Té-tchung, Chinese . . . . .	48
„ ancient Egyptian . . . . .	17	Tetrachord . . . . .	86
„ Hebrew . . . . .	30	Thalla, Hindu . . . . .	171
„ Indian . . . . .	161	Thebes, celebrated harps of . . . . .	11
„ Turkish . . . . .	209	Thembogyoung, Burmese . . . . .	174
„ baghlama . . . . .	203, 309	Théorbe, French . . . . .	242
Tambour de Basque . . . . .	215, 223	Theorbino . . . . .	325
Tambourine, Assyrian . . . . .	25	Theorbo . . . . .	242, 324
„ Egyptian, ancient . . . . .	19, 20	„ English . . . . .	321
„ „ modern . . . . .	147	Thompson, inventor of a tuning machine . . . . .	345
„ English . . . . .	376	Threwes, instrument maker . . . . .	375
„ French . . . . .	377	Thro, Burmese . . . . .	313
„ Grecian, ancient . . . . .	39	Tibia, ancient Roman . . . . .	17, 42
„ Hindu . . . . .	170	Tibia curva and ligula . . . . .	43
„ Turkish . . . . .	215	„ dextra and sinistra . . . . .	43
„ Wallachian . . . . .	221	„ gingrina . . . . .	43
Tam-tam . . . . .	128	„ obliqua and vasca . . . . .	43
Tanbour, tamboura . . . . .	162	„ utricularis . . . . .	44
Tanbour baghlama . . . . .	209	Tibiæ pares and impares . . . . .	43
„ boulgáry . . . . .	209	Tieffenbrucker, Leonhard, lute maker	244, 322
„ bouzourk . . . . .	209	„ Magnus, lute maker . . . . .	244
„ charqy . . . . .	209	„ Vendelino, lute maker . . . . .	244
„ kebyr tourky . . . . .	209	Tielke, Joachim, instrument maker . . . . .	247, 264, 265, 337
Tangents in the clavichord . . . . .	274	Tintinnabula, Roman . . . . .	45
Taquí, ancient Peruvian . . . . .	84	Tintinnabulum, mediæval . . . . .	112
Tarai, Hindu . . . . .	169	Tinya, stringed instrument of the Inca Peruvians . . . . .	82
Tarau, Burmese . . . . .	313	Tiorba, Italian . . . . .	242
Tarifio, Luigi, collector of violins	363, 365	Tjantjan, Japanese . . . . .	198
Taschengeige, German . . . . .	261	Tobilets, double drum . . . . .	299
Taskin, Pascal, instrument maker . . . . .	278	Tononi, Carolus, violin maker . . . . .	377
Taus, lute maker . . . . .	245	Toomerie, Hindu . . . . .	57, 166
Tché, Chinese flute . . . . .	52	Toomerie Nagassaran, Hindu . . . . .	168
		Toontoonee, Hindu . . . . .	163

	Page		Page
Tooree, Hindu . . . . .	87, 169	Turkish tamboura . . . . .	209
Tootooree, Hindu . . . . .	296	Ty, Chinese . . . . .	52, 182
Toph, Hebrew . . . . .	32	Tympanon, ancient Grecian . . . . .	39
Tourte, violin bow maker . . . . .	261	Tympanum, ancient Roman . . . . .	45
Träger, inventor of the Nagelclavier . . . . .	268	Tzeltzelim, Hebrew . . . . .	33
Trafuntino, instrument maker . . . . .	378	Tzetze, African . . . . .	162, 296
Treble-viol . . . . .	339		
Triangle, mediæval . . . . .	112	U.	
Triangulum, ancient Roman . . . . .	45	Ugab, Hebrew . . . . .	31, 220
Trigonon, Assyrian . . . . .	23	Ujuk, Persian . . . . .	157
„ ancient Egyptian . . . . .	13	Univerfalclavicymbel . . . . .	378
„ ancient Grecian . . . . .	38	Upright spinet . . . . .	351
Trigonum, ancient Roman . . . . .	42	Urbinas, Augustinus Citarædus . . . . .	257
Triple flageolet, English . . . . .	317	Ur-heen, Chinese . . . . .	178, 313
„ harp, Welsh . . . . .	291	„ its supposed origin . . . . .	57
Tromba, Italian . . . . .	172	Urquhart, violin maker . . . . .	366
„ marina . . . . .	377	Uvendelio Veneto, lute maker . . . . .	377
„ piccola . . . . .	371		
Trombone, German . . . . .	371	V.	
„ mediæval . . . . .	108	Valga, Negro instrument . . . . .	307
Trompe, French . . . . .	172	Vanhecke, inventor of the biffex . . . . .	251
Trumbscheit, tromba marina . . . . .	377	Venere, Vendelino, lute maker . . . . .	244
Trumpets, Assyrian . . . . .	25	Ventura, teacher of the harp-lute . . . . .	328
„ of the Bhooteas . . . . .	296	Veffels, musical, of the American Indians . . . . .	75
„ Burmese . . . . .	295	Vicentino, inventor of the archicem- balo . . . . .	378
„ Egyptian, ancient . . . . .	19, 20	Viera da Silva, instrument maker . . . . .	330
„ English . . . . .	371, 372	Vielle, viol, mediæval . . . . .	112, 114, 222
„ German . . . . .	371	Vielle, hurdy-gurdy . . . . .	233
„ Grecian, ancient . . . . .	39	„ „ compositions for the . . . . .	234
„ Hebrew . . . . .	32	„ „ virtuoso on the . . . . .	234
„ Hindu . . . . .	296	„ en guitare . . . . .	234
„ Irish . . . . .	370	„ en luth . . . . .	234
„ Negro . . . . .	152	„ organisée . . . . .	345
„ Roman, ancient . . . . .	44	Vihuela, Spanish . . . . .	116, 253
„ Scandinavian . . . . .	370	Vina, Hindu . . . . .	53, 159
„ of the American Indians . . . . .	72	Vincentius Venaccio, mandoline maker . . . . .	335
„ of the Anglo-Saxons . . . . .	107	Viol, mediæval . . . . .	112, 114, 116
Tfang, Chinese . . . . .	312	„ treble . . . . .	339
Tfchengjir of the Suanets . . . . .	202	„ counter-tenor . . . . .	338
Tfchudi, Burkhardt, instrument maker . . . . .	277, 352	„ tenor . . . . .	338
Tfeing, Burmese . . . . .	177	„ bafs . . . . .	338
Tfe-king, Chinese . . . . .	48	„ haute-contre, French . . . . .	341
Tfhain, Burmese . . . . .	177	„ Lyra-way, English . . . . .	266
Tfine, Burmese . . . . .	177		
Tuba, ancient Roman . . . . .	44		
Tung-keo, Chinese . . . . .	185		
Tung-lo, Chinese . . . . .	192		
Tuning machine . . . . .	345		
Tuk-kay, Siamese . . . . .	174		
Turé, American Indian . . . . .	73		
Turkish cymbals . . . . .	207		
„ dulcimer . . . . .	205		
„ flute . . . . .	212		



	Page
Viol, par-déffus, French . . . .	342
„ quinton, French . . . .	342
Viola, tenor, in the Special Exhibition	363
Viola, d'amore . . . . .	339
„ strung with wire . . . . .	340
„ in the Special Exhibition . . . .	360
„ di bardone . . . . .	264
„ di braccio . . . . .	259
„ di fagotto . . . . .	266
„ da gamba, in the Special Ex- hibition . . . . .	361
„ „ English . . . . .	122, 336
„ „ German . . . . .	262, 263, 336
„ „ Italian . . . . .	262
„ „ seven-stringed . . . . .	338, 361
„ „ four-stringed . . . . .	361
„ „ played by ladies . . . . .	262
„ di fpala . . . . .	263
Viole d'amour, viola d'amore . . . .	204, 341
„ de bourdon . . . . .	266
Violetta piccola . . . . .	341
Violin, its supposed Eastern origin . .	56
„ Abyssinian . . . . .	309
„ Burmese . . . . .	313
„ Chinese . . . . .	178
„ Circassian . . . . .	203
„ German . . . . .	259
„ Hindu . . . . .	164, 314
„ Russian . . . . .	204
„ Turkish . . . . .	204, 210
„ of silver . . . . .	363
„ given by Queen Elizabeth to the Earl of Leicester . . . . .	287
Violin bow, Hindu . . . . .	56
„ „ old-fashioned . . . . .	342
„ „ modern . . . . .	261
Violina picciola a la francese . . . .	360
Violins in the Museum . . . . .	259, 342
„ in the Special Exhibition . . . .	362
Violone, double-bass . . . . .	267
Violoncello, its origin . . . . .	263
Violoncellos in the Special Exhibition	364
Virginal . . . . .	269, 270, 271
„ music for the . . . . .	271
Virginals in the Special Exhibition . .	349
Vissandfchi, Negro instrument . . . .	297
Voigt, Martin, viol maker . . . . .	263
Voll, Georg, regal maker . . . . .	375
Vox humana, organ register . . . . .	262
Vuillaume, J. B., violin maker . . . .	261

W.

	Page
Wäinämöinen, Finnish demi-god . . . .	54
Wait, mediæval . . . . .	117
Waldhorn, German . . . . .	371
Walker, instrument maker . . . . .	327
Wallachian music . . . . .	217
„ bagpipe . . . . .	220
„ flute . . . . .	220
„ lute . . . . .	219
„ mountain horn . . . . .	217
„ oboe . . . . .	221
„ tambourine . . . . .	221
„ syrinx . . . . .	219
Walther, on the regal . . . . .	375
„ on the virginal . . . . .	274
Wambee, Negro instrument . . . . .	308
Warrau Indians, their musical per- formances . . . . .	66
Welsh bagpipe . . . . .	214
„ cornicyll . . . . .	293
„ crwth . . . . .	294
„ harp, telyn . . . . .	294
„ hornpipe, pibgorn . . . . .	293
Whistles, pre-historic . . . . .	9
„ Austrian, modern . . . . .	224
„ Babylonian, ancient . . . . .	285
„ Egyptian, modern . . . . .	143
„ Mexican, ancient . . . . .	65, 285
„ Spanish . . . . .	224
Wilde, inventor of the nail violin . . . .	343
Wildgren, instrument maker . . . . .	302
Wilhelmi, clavichord maker . . . . .	275
Wolf, Magnus, trumpet maker . . . . .	371
Wolynka, Russian bagpipe . . . . .	214
Wornum, instrument maker . . . . .	326

Y.

Yang-kin, Chinese dulcimer . . . . .	182, 312
Ye-yin, Chinese fiddle . . . . .	178
Yo, Chinese flute . . . . .	52, 184
Yo Poo, Chinese . . . . .	85
Yotl of the Aztecs . . . . .	80
Yu, sonorous stone, Chinese . . . . .	47
Yue-kin, Chinese . . . . .	179, 310
Yun-lo, Chinese . . . . .	192

Z.		Page		Page
Zampogna, Italian bagpipe . . . . .	214, 374		Zitterlein, small cither . . . . .	330
Zamr, Arabian . . . . .	117		Zouggarah, Egyptian . . . . .	214
Zanure, viol maker . . . . .	360		Zourna, Eastern oboe . . . . .	117
Zanze, Negro instrument . . . . .	297		„ Hindu . . . . .	167
Zikrs, of the Dervishes . . . . .	145		Zourna, Vezirli . . . . .	213
Zil, Turkish . . . . .	207		Zummárah, double pipe . . . . .	213
Zinken, German . . . . .	230, 292, 372		„ bi-foan . . . . .	214
Zither, cither . . . . .	255, 258, 331		Zumpe, his pianoforte with demi- femitones . . . . .	378
			Zumpe and Mayer, pianoforte makers	359
			Zwölfhörige cither, German . . . . .	330

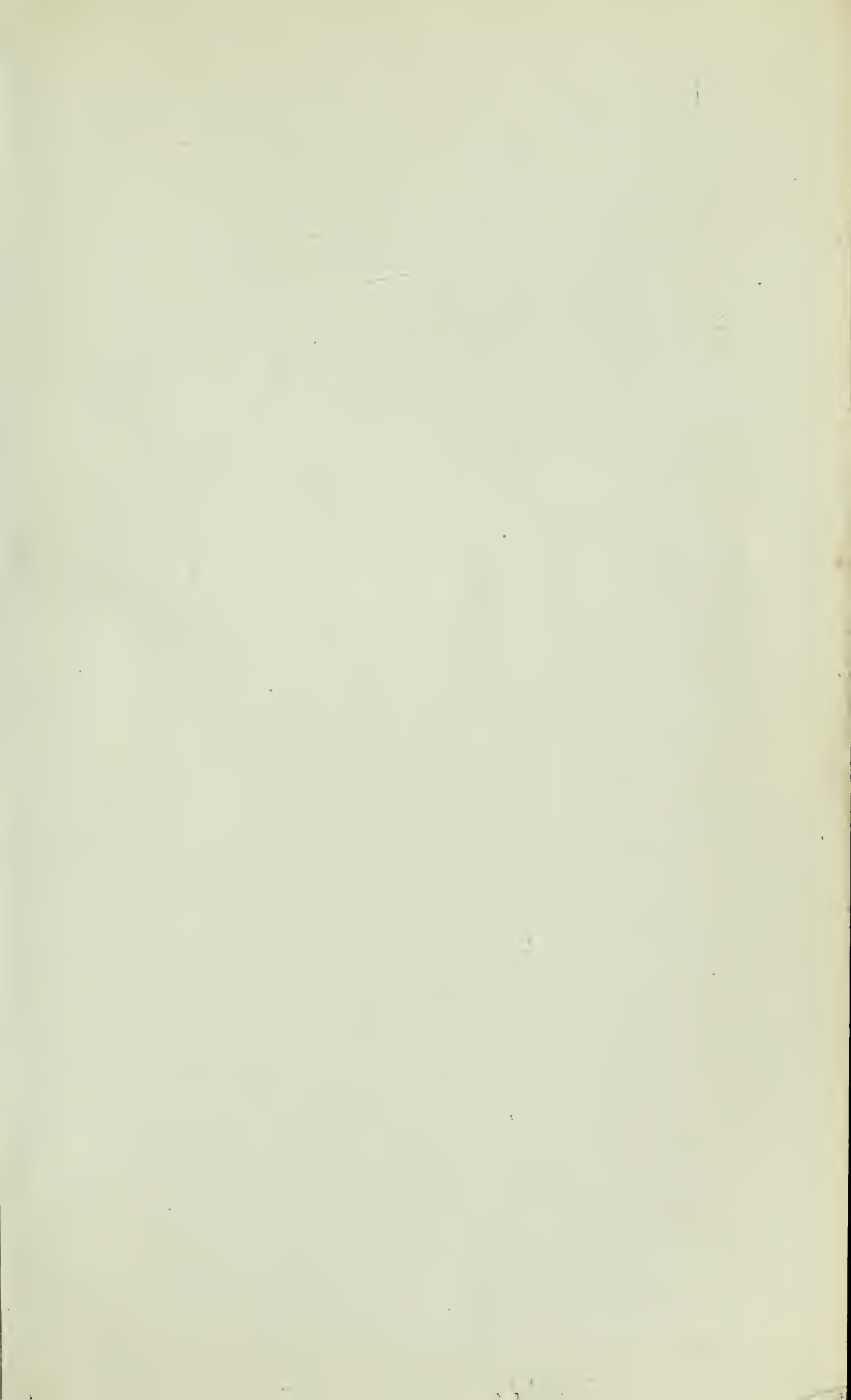
LONDON:

Printed by GEORGE EDWARD EYRE and WILLIAM SPOTTISWOODE,  
Printers to the Queen's most Excellent Majesty.

For Her Majesty's Stationery Office.

[9644.—1000 &amp; 25.—3/74.]

1871





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